ORDER NO. EMID971647
A4

Service Manual

PCM Digital Piano

SX-PX226/PX226M /PX228B

Photo: SX-PX226

(M), (MC), (XM), (EN), (EH), (EF), (EZ), (EW), (EA), (EP), (EK), (XL), (XR), (XS), (XD), (XT), (X), (XP),(XW)

AREAS

(M):	U.S.A.	(EK):	the United Kingdom
(MC):	Canada	(XL):	New Zealand
(XM):	Mexico	(XR):	Australia
(EN):	Norway, Sweden, Denmark, Finland	(XS):	Malaysia
(EH):	Holland, Belgium	(XD):	Saudi Arabia, Hong Kong, Kuwait
(EF):	France, Italy	(XT):	Taiwan
(EZ):	Germany	(X):	Thailand, Indonesia, Iran, U.A.E., Panama, Argentina, Peru, Brasil
(EW):	Switzerland		
(EA):	Austria		
(EP):	Spain, Portugal, Greece, South Africa	(XP):	Philippines
		(XW):	Singapore

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

■ Specifications

KEYBOARD	88 KEYS (POLYPHONIC 64 NOTES)
SOUNDS	GRAND, UPLIGHT, ROCK, E PIANO 1, E PIANO 2, HARPSI, VIBES, STRINGS, VOCAL, ORGAN PRESETS
LEFT SOUND	ACOUSTIC BASS, ACOUSTIC & RIDE, ELECTRIC BASS, OTHER SOUNDS
PEDAL	SUSTAIN, SOSTENUTO, SOFT
BRILLIANCE	MELLOW, BRIGHT (5 STEPS)
DIGITAL EFFECT	○
DIGITAL REVERB	○ (ROOM, STAGE, HALL, CONCERT)
TOUCH SENSITIVITY	LIGHT, NORMAL, HEAVY
TRANSPOSE	G-C-F#
TUNING	427.3 Hz-440.0 Hz-453.0 Hz
METRONOME	○ (TIME SIGNATURE: OFF, 2/4, 3/4, 4/4, 5/4, 6/8)
SEQUENCER	TRACKS (1, 2) STORAGE CAPACITY : APPROX. 4500 NOTES RECORDING MODE: REAL TIME
DISPLAY	○
DEMO	○
MIDI	MULTI TIMBRE, LOCAL CONTROL, OMNI ON, PROGRAM CHANGE, PEDAL, EFFECT, TRANSPOSE
MODE SET	PIANO TUNING, MINIMUM RANGE, SPLIT
OTHERS	POWER SWITCH, MAIN VOLUME, LINE OUT (R/R+L, L), AUX IN (R/R+L, L), MIDI (IN, OUT), COMPUTER, PEDAL IN, HEADPHONES×2, AC IN, INITIAL KEY

Technics

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OUTPUT	60 W × 2
SPEAKERS	16 cm×2, 12 cm×2, 6.5 cm×2
POWER REQUIREMENT	**235W,155W (NORTH AMERICA AND MEXICO)** AC120/220/240 V 50/60 Hz AC120 V 60 Hz (NORTH AMERICA AND MEXICO) AC230-240 V 50/60 Hz (EUROPE, AUSTRALIA, NEW ZEALAND, SINGAPORE AND PHILIPPINES)
DIMENSIONS (W × H × D)	139.8 cm×106.9 cm×51.7 cm (55-1/32"×42-3/32"×20-11/32")
NET WEIGHT	**SX-PX226/PX226M** 64 kg (141.1 lbs.) **SX-PX228B** 67 kg (147.7 lbs.)
ACCESSORIES	STAND, AC CORD

•Specifications are subject to change without notice for further improvement.

WARNING

To prevent the risk of fire, smoke, or electrical shock and to ensure safe operation, please be sure to follow the safety guidelines below.

1. At places where special caution is required, the necessary safety precautions are clearly labeled or printed, for example, on the cabinet, or on the part concerned. Please follow these safety precautions, and also those listed in the Owner's Manual.

2. Parts which have a ⚠ mark in the circuit diagram or in the parts list are essential for safety. When replacing these parts, be sure to use only the specified parts.

3. Use the specified types for internal wiring (double-insulated wiring, etc.).

4. When replacing parts on the AC primary side (power transformer, electric switch, electrical cord, noise-prevention condenser, etc.), wind the lead wire and secure it by soldering.

5. Do not let the wiring come into contact with heat-emitting devices (fuse resistor, radiator plate, etc.).

6. When replacing the wiring, make sure that it is not in contact with the unfinished or rough edge of a part.

7. When replacing the power cord (except for the plug-in type), tug it from various directions to confirm that it does not slip out of place.

8. Spacing
   If soldering was done on the AC primary circuit, confirm that the interval between the soldered terminals or between the terminal and surrounding metallic parts is at least the minimum required (between the primary circuit and the chassis: at least 6.5 mm; between primary circuit terminals: at least 4.0 mm; between primary circuit terminals and secondary circuit terminals: at least 6.5 mm).

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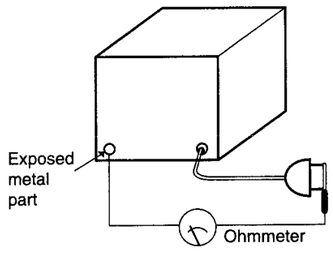
SAFETY PRECAUTION

● Safety Precaution

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only the manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

● Insulation Resistance Test

1. Unplug the power cord and short the prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with an ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screw heads, connectors, control shafts, handle brackets, etc. Measurements should range from 4 MΩ to infinity for all exposed parts.

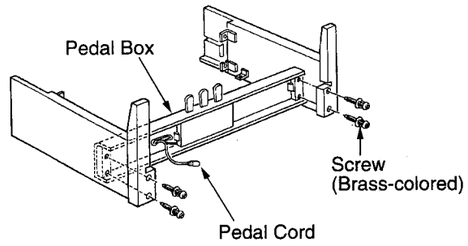


Resistance = 4MΩ to ∞

HOW TO ASSEMBLE THE PIANO

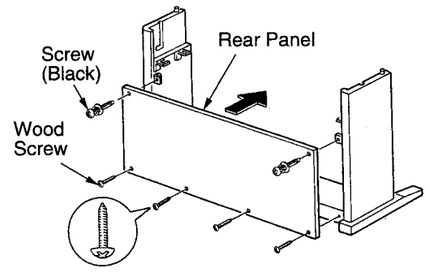
To prevent the piano unit from falling off the stand, secure it firmly with the screws.

1 Assemble the right and left side planks to the pedal box with the 4 brass-colored screws.
- Loosen the pedal cord, stowed on the inner side of the pedal box, and extend it.



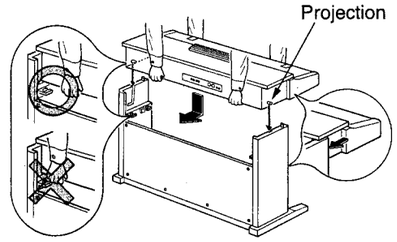
[Fig. 1]

2 Place the stand upright and mount the rear panel with 2 black screws and 4 wood screws.



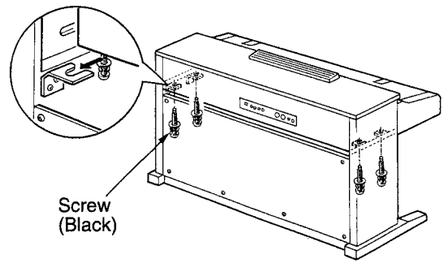
[Fig. 2]

3 Place the piano body on the stand by matching the projections on the right and left sides of the plano body bottom with the grooves in the stand.
- After placing the piano body, push the piano body in the grooves in the direction shown by the arrow until it firmly contacts the front of the stand.
- Be careful not to pinch your fingers.



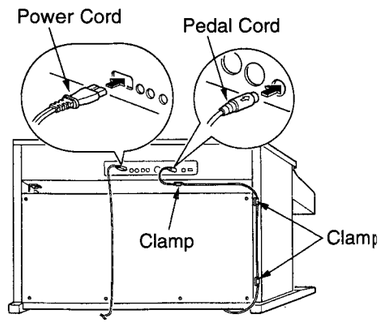
[Fig. 3]

4 Secure the piano body with 4 black screws.



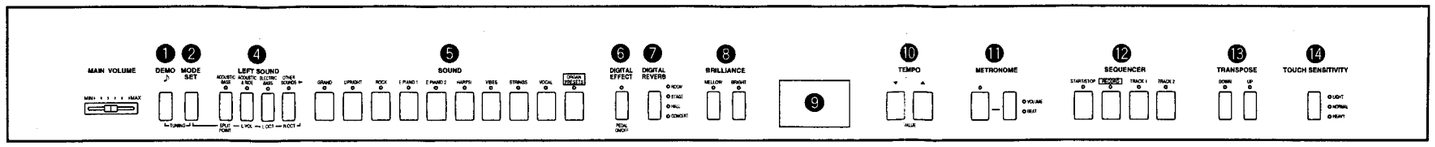
[Fig. 4]

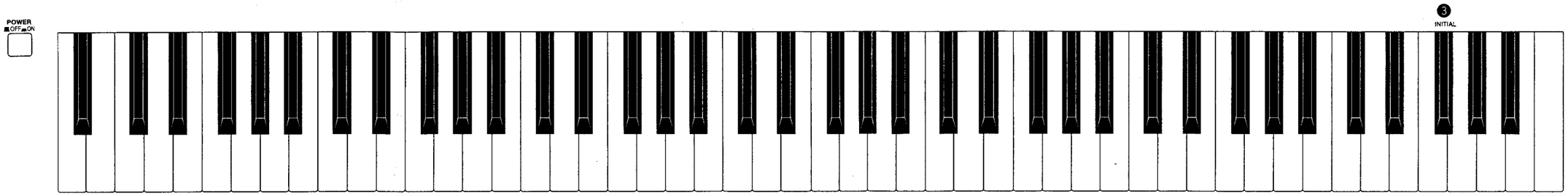
5 Connect the pedal cord and power cord to the terminals located on the rear of the piano unit as shown below.

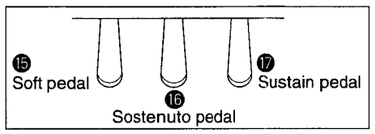


[Fig. 5]

ARRANGEMENT OF CONTROL PANEL







1 DEMO
Automatic demonstration performances stored in the piano's memory introduce the various sounds available. Listen to all the demonstration tunes in order, or listen to the demo tune of a specific sound.

2 MODE SET, 3 INITIAL KEY
Used when selecting functions to set or adjust, including type of piano tuning, minimum range, initialization, plus all settable MIDI functions. Also used when erasing **SEQUENCER** tracks.

- If the **INITIAL KEY** is pressed while the **MODE SET** button is depressed, the settings of the buttons, etc. will return to the initialized settings made by the manufacturer.

4 LEFT SOUND
The keyboard can be divided into right and left section (split). Select from 4 defferent sound for left part.

5 SOUND
Select from 10 different sounds for the piano. You can mix sounds by selecting two simultaneously. All sounds feature Touch Response.

6 DIGITAL EFFECT
Apply a celeste effect to give the sound greater depth. The setting is memorized independently for each sound.

7 DIGITAL REVERB
Add a reverb effect to the sound. Choose one of four different echo types. The setting is memorized independently for each sound.

8 BRILLIANCE
Select the brightness of the sound from five settings. The setting is memorized independently for each sound.

9 Display
Various information is shown on the display, including **SEQUENCER** information (remaining memory capacity, error indication) and MIDI information (selected MIDI CHANNEL, PROGRAM CHANGE number).

10 TEMPO
Use to adjust the tempo and volume of the metronome and the playback tempo of the **SEQUENCER**.

11 METRONOME
You can play in time with a metronome sound. The metronome volume and speed are adjustable, and you can accent the metronome sound to match the time signature of the music.

12 SEQUENCER
Record your performance and have it automatically played back.

13 TRANSPOSE
C is the standard setting, but you can raise or lower the key of the entire instrument within a one-octave range with these two buttons.

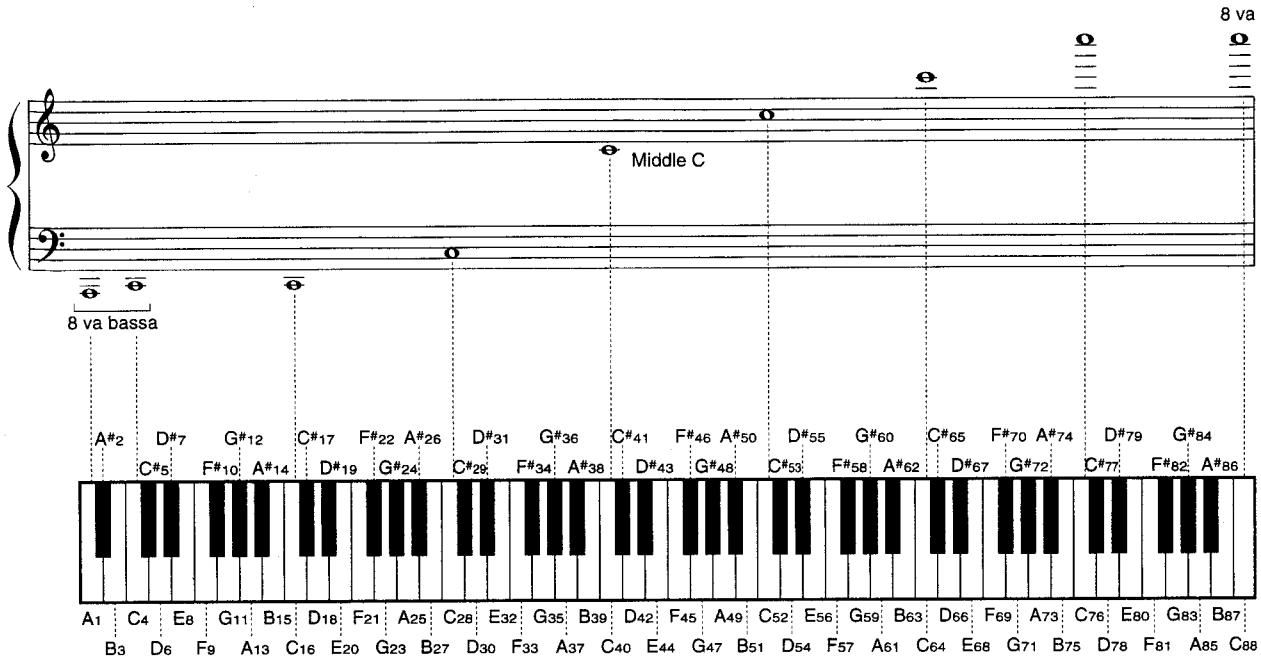
14 TOUCH SENSITIVITY
Choose **LIGHT**, **NORMAL** or **HEAVY** keyboard touch (Touch Response) to match your type of playing

15 Soft pedal
Press the pedal for softer, muted sound. It can also be used as a sostenuto pedal.

16 Sostenuto pedal
Sustain is added only to the notes played while the pedal is depressed. And for sustained-type sound, the tones continue to sound for as long as the pedal is depressed.

17 Sustain Pedal
The sound is sustained when a key is released while this pedal is depressed.
The length of the sustain is controlled by the degree to which the pedal is depressed (8 stages).

KEYBOARD RANGES



INITIAL SETTING

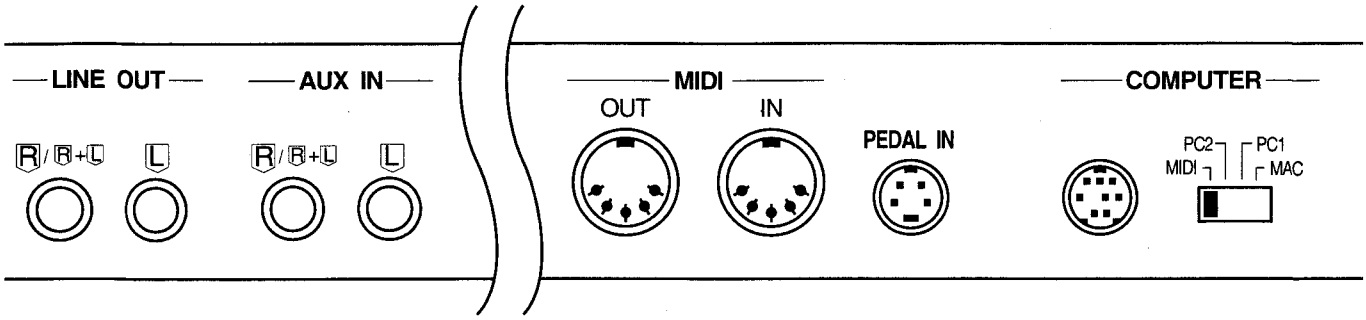
The following procedure resets all programmable settings, functions and memories to their initialized (factory-preset) status. Use this procedure if the buttons, keys, etc. malfunction, or when you wish to reset the memories and functions.

1. Turn off the **POWER** button.
2. While pressing the **INITIAL** key at the same time, turn the **POWER** button on again.

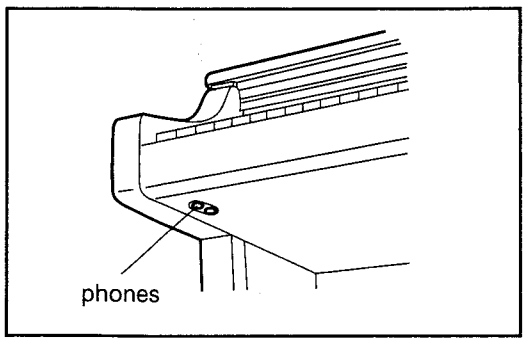
(Or, you can press the **INITIAL** key while the **MODE SET** button is pressed.)

TERMINALS

(on the rear panel)



HEADPHONES (phones) ×2
For silent practice, headphones may be used. When plugged in, the speaker system is automatically switched off, and sound is heard only through the headphones.



LINE OUT (output level 1.5 Vrms, 600 Ω)
By plugging into an external high-power amplifier, the sound can be reproduced at a high volume. (Use the **R/R+L** terminal when outputting monaural sound.)

AUX IN (input level 0.5 Vrms, 6 kΩ)
Other instruments such as a rhythm machine or sound module can be connected to the piano so that the sound is output from the piano. To receive monaural sound, connect the other instruments to the **R/R+L** terminal.

MIDI (Musical Instrument Digital Interface)
MIDI is the standard specification that enables connection to equipments such as synthesizers and personal computers.

IN : The terminal that receives data from external equipment.
OUT : The terminal that transmits data from this instrument to external equipment.
- Use a 5-pin DIN cord (less than 15 m long) for these connections.

PEDAL IN
Connect the included pedal.

COMPUTER
By connecting this terminal to the serial port of a computer, performance data can be exchanged. Use the switch to select the type of computer.
- Be sure that the power to this instrument is turned off when connecting to a computer or when changing the switch setting.
  Caution: Failure to turn off the power before changing the switch setting may result in malfunction.
- When no computer is connected, or when a MIDI interface is used, the switch should be set to **MIDI**.

<Connection to a Macintosh series computer>
Use an ACCESSORY CABLE (SZ-JJAP1, sold separately) to connect the **COMPUTER** terminal of this instrument to the modem port or printer port of a Macintosh Series computer. Set the switch to **MAC**.
- Set the MIDI interface clock of the Macintosh software to 1 MHz.

<Connection to a PC>
Use an ACCESSORY CABLE (SZ-JJAT1, sold separately) to connect the **COMPUTER** terminal of this instrument to the RS232C terminal of a PC. Set the switch to **PC2**.
- The MIDI driver included with the cable should be installed in the computer. (Refer to the manual accompanying the cable.)

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PARTS LOCATION

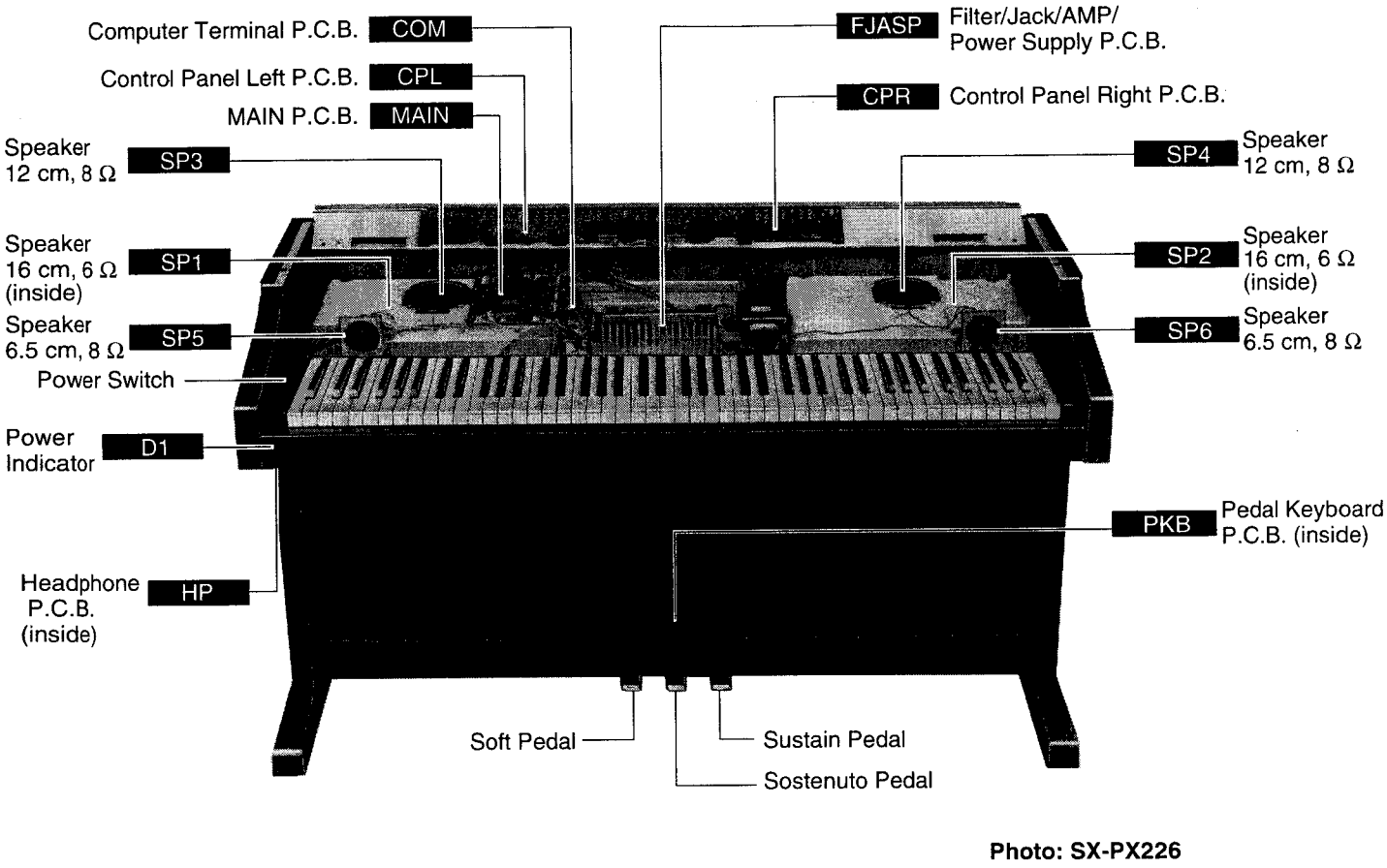

Computer Terminal P.C.B. COM
Control Panel Left P.C.B. CPL
MAIN P.C.B. MAIN
Speaker 12 cm, 8 Ω SP3
Speaker 16 cm, 6 Ω (inside) SP1
Speaker 6.5 cm, 8 Ω SP5
Power Switch
Power Indicator D1
Headphone P.C.B. (inside) HP
FJASP Filter/Jack/AMP/ Power Supply P.C.B.
CPR Control Panel Right P.C.B.
SP4 Speaker 12 cm, 8 Ω
SP2 Speaker 16 cm, 6 Ω (inside)
SP6 Speaker 6.5 cm, 8 Ω
PKB Pedal Keyboard P.C.B. (inside)
Soft Pedal
Sustain Pedal
Sostenuto Pedal

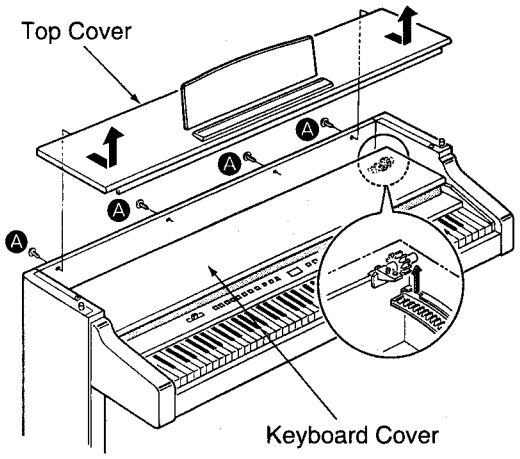
Photo: SX-PX226

[Photo-1]

DISASSEMBLY INSTRUCTIONS

1 Removing the top cover

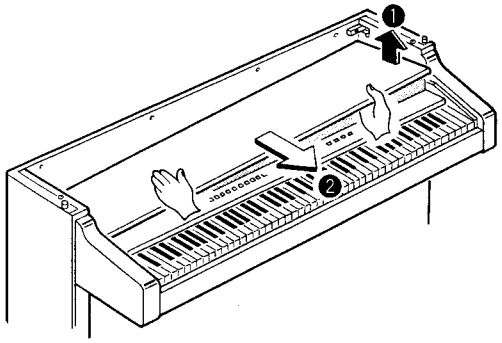
1. Remove the top cover mounting screws (Ⓐ 4 pcs.).
2. Slide the top cover forward and lift up (as shown by the arrows).



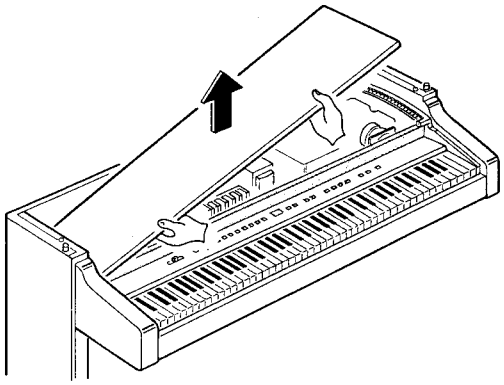
[Fig.6]

2 Removing the keyboard cover

1. Remove the top cover (see step 1).
2. Match the right gear of the keyboard cover with the notch in the guide rail as shown in Fig.6.
3. Lift up the right side of the keyboard cover (Fig.7-❶), and then slide the keyboard cover forward (Fig.7-❷).
4. Lift up the keyboard cover as shown in Fig.8.



[Fig.7]

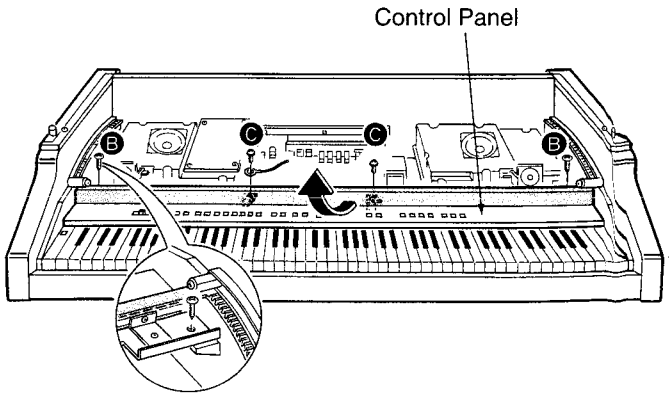


[Fig.8]

3 Removing the control panel

- Pull out the connectors on the control panel.

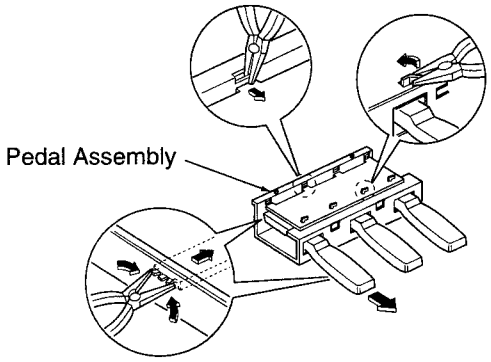
1. Remove the keyboard cover (see step 2).
2. Remove the control panel mounting screws (Ⓑ 2 pcs and Ⓒ 2 pcs.).
3. Slide the control panel forward and pull out (as shown by the arrows).



[Fig.9]

4 Disassembly of the pedal assembly

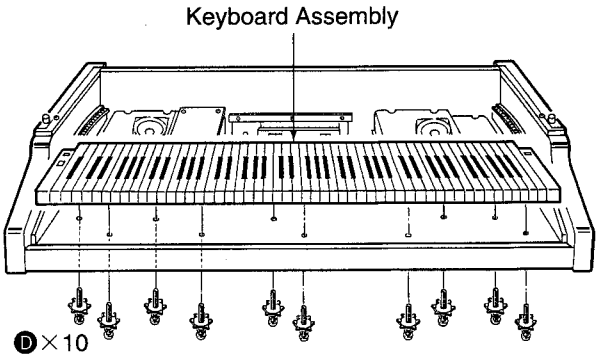
1. Remove the pedal assembly from the pedal box.
2. Disassemble the pedal assembly as shown in Fig. 10.



[Fig.10]

5 Removing the keyboard assembly

1. Remove the control panel (see step 3).
2. Remove the keyboard assembly mounting screws located on the bottom of the cabinet (Ⓓ 10 pcs.).



[Fig.11]

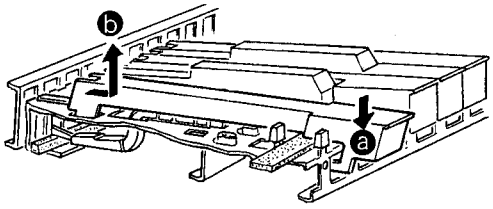
6 Key (s)

Disassembly

1. Remove the keyboard assembly (see step 5).
2. Release the key claw.
   - Ⓐ Press the front of the key downward slightly.
   - Ⓑ Press the rear of the key forward gently.
3. To remove the key, lift it as shown in Fig. 12.

NOTE:

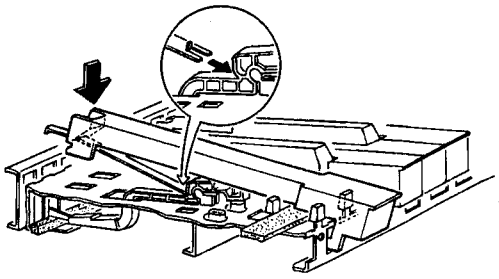
- The key claw is easily broken. Do not apply undue force. Should a key claw break, it can still be used; however, a replacement is recommended.
- If a black key is to be replaced, it is necessary to remove both adjacent white keys.



[Fig.12]

Assembly

1. Insert the front part of the key into the chassis.
2. Insert the plate spring into the hammer notch as shown in Fig. 13.
3. While slowly lowering the key into the chassis, insert the plate spring into the notch at the rear of the key.
4. Carefully insert the key into the opening in the chassis and slide the key towards the rear to lock it in place.



[Fig.13]

7 Removing the speaker box and the speakers.

- Remove the top cover (see step 1).

Removing the speakers (12 cm, 8 cm)

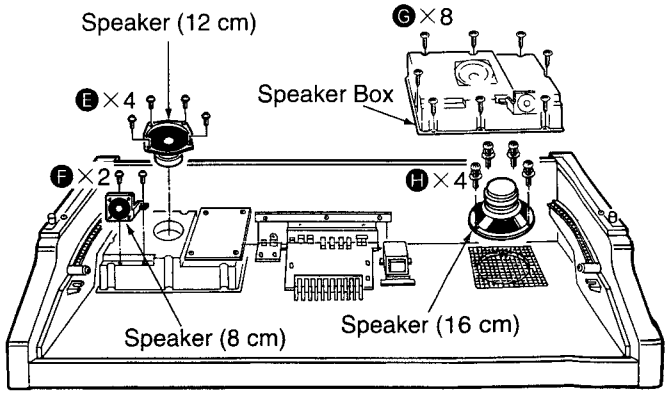
1. Remove the 12 cm speakers mounting screws (Ⓔ 4 pcs. each).
2. Remove the 8 cm speakers mounting screws (Ⓕ 2 pcs. each).

Removing the speaker box

- Remove the speaker box mounting screws (Ⓖ 8 pcs. each).

Removing the speakers (16 cm)

1. Remove the speaker box.
2. Remove the 16 cm speakers mounting screws (Ⓗ 4 pcs. each).



[Fig.14]

8 Removing the printed circuit boards

- Remove the top cover (see step 1).
- Pull out the connectors on the printed circuit boards.

MAIN P.C.B.

1. Remove the ground wire holding screw (I 1 pc.).
2. Remove the MAIN P.C.B. mounting screws (J 4 pcs.).

FJASP P.C.B.

1. Remove the FJASP P.C.B. mounting screws (K 2 pcs. and L 2 pcs.).
2. Release the claws of the 3 P.C.B. holders.

COM P.C.B.

1. Remove the COM P.C.B. mounting screw (M 1 pc.).
2. Release the claws of the 2 P.C.B. holders.

HP P.C.B.

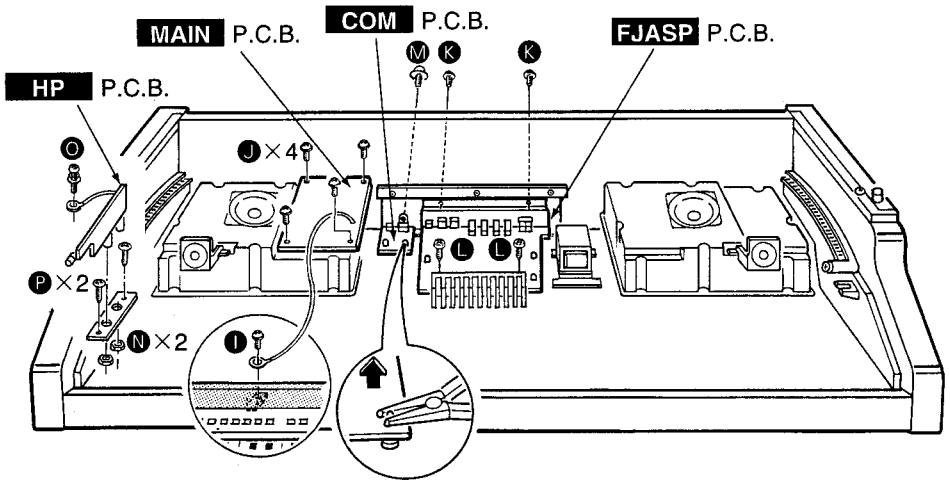
1. Remove the keyboard assembly (see step 5).
2. Remove the headphone jack mounting nuts (N 2 pcs.).
3. Remove the ground wire holding screw (O 1 pc.).
4. Remove the HP P.C.B. mounting screws (P 2 pcs.).

CPL P.C.B.

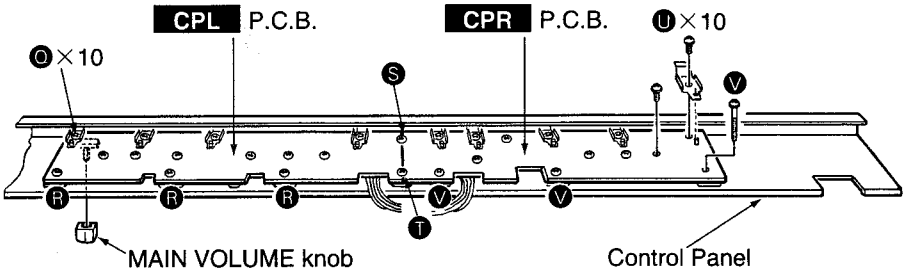
1. Remove the control panel (see step 3).
2. Pull of the MAIN VOLUME knob.
3. Remove the CPL P.C.B. mounting screws (Q 10 pcs., R 3 pcs., S 1 pc. and T 1 pc.).

CPR P.C.B.

1. Remove the control panel (see step 3).
3. Remove the CPR P.C.B. mounting screws (U 10 pcs., V 3 pcs., S 1 pc. and T 1 pc.).



[Fig.15]



[Fig.16]

SYMPTOMS WHICH APPEAR TO BE SIGNS OF TROUBLE

The following changes in performance may occur in the Technics Digital Ensemble but do not indicate trouble.

Phenomenon	Remedy
No sound is produced when the keyboard is played.	•No sound is produced if the **MAIN VOLUME** is set to **MIN.** Use the sliding control to set the volume to an appropriate level. •If the MIDI LOCAL CONTROL is set to off, set it to on.
Nothing is shown on the display.	•The metronome, **SEQUENCER** tempo, etc. are indicated on the display. During normal performance, however, the display is off.
Data cannot be exchanged through MIDI terminals.	•The switch for the **COMPUTER** terminal is not set to **MIDI**. Turn off the power to this instrument and set the switch to **MIDI**. •Match the channels on the transmitting side and the receiving side.
The sound quavers or is distorted.	•When the **COMPUTER** terminal or both the **MIDI IN** and **OUT** terminals are connected to a computer, depending on the computer software the received data may be sent back to the instrument just as it is. Because of this the sound generated from the keys and the sound gnerated from the returned data are both produced, causing undesirable effects, such as the sounds canceling each other out, for example. In this case, either change the software settings to prevent received data from being returned, or set the MIDI LOCAL CONTROL to off.

■ About the backup memory

The selected sound and various functions, MIDI settings and **SEQUENCER** contents remain in the memory for about one week after the **POWER** is turned off.

- The backup memory will not function until the **POWER** has been on for about 10 minutes.
- If you wish to return all memories and settings to their initialized status, while pressing the **MODE SET** button, press the **INITIAL** key on the keyboard. Or you can turn on the **POWER** while pressing the INITIAL key.
- When the **POWER** is turned on, the MIDI LOCAL CONTROL is set to on.
- If you wish to retain the memory for longer than one week, before one week has elapsed, turn on the power and leave it on for about 10 minutes before turning it off again. The settings will remain in the memory for about one week from this time.

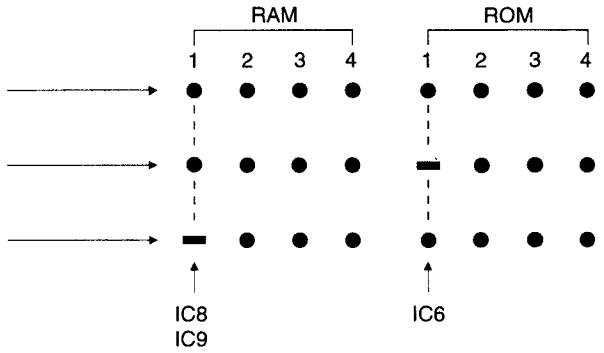
ABOUT THE SELF-DIAGNOSTIC FUNCTION

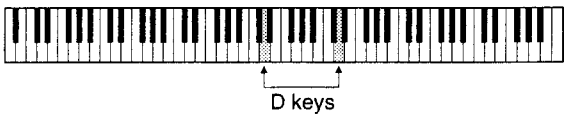
This model has some self-diagnostic capabilities. When set to the self-diagnostic mode, operation of various components can be verified by following the procedures in the chart below.

<table>
<tr><th>No.</th><th>PCB</th><th>TEST MODE</th><th>Procedure</th></tr>
<tr><td>1</td><td>MAIN</td><td>RAM (IC8, 9), ROM (IC6) check</td><td>1. Connect the CHECKING DEVICE (refer to page I-14) to CN9 on the MAIN P.C.B., and turn on the CHECKING DEVICE switch.
2. Turn on the power switch.</td></tr>
<tr><td colspan="4">When the power switch is turned on, the LED of the CHECKING DEVICE flashes 8 times. The first 4 flashes are for the RAM check, and the latter 4 flashes are for the ROM check. The order of the LED flashes correspond to the respective IC numbers as shown below. If an IC is defective, the corresponding flash time is longer.

Examples
1. RAM OK, ROM OK
2. RAM OK, ROM (IC6) defective
3. RAM (IC8, 9) defective, ROM OK

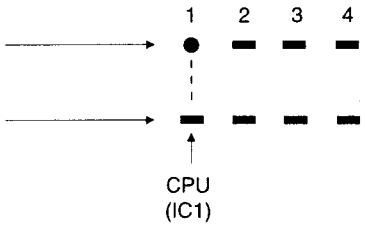
NOTE : ● indicates short flash time
▬ indicates long flash time

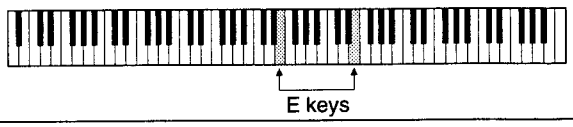
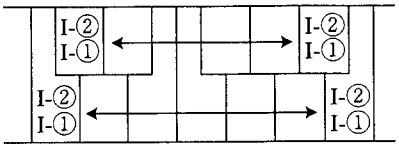
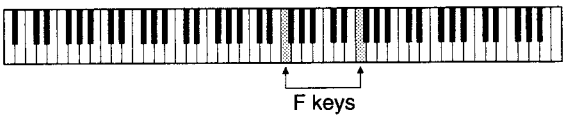
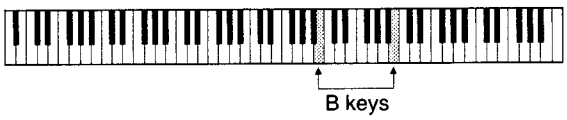
 
</td></tr>
<tr><td>2</td><td>CPL</td><td>CPU (IC1) check</td><td>1. Connect the CHECKING DEVICE to CN9 on the MAIN P.C.B. (the Checking Device switch should be off).
2. Press and hold the two D keys shown below, and then turn on the power switch.

 
</td></tr>
<tr><td colspan="4">When the power switch is turned on, the LED of the CHECKING DEVICE flashes 4 times. The order of the LED flashes corresponds to the CPU (IC) on the respective P.C.B.s as shown below. If an IC is defective, the corresponding flash time is longer.

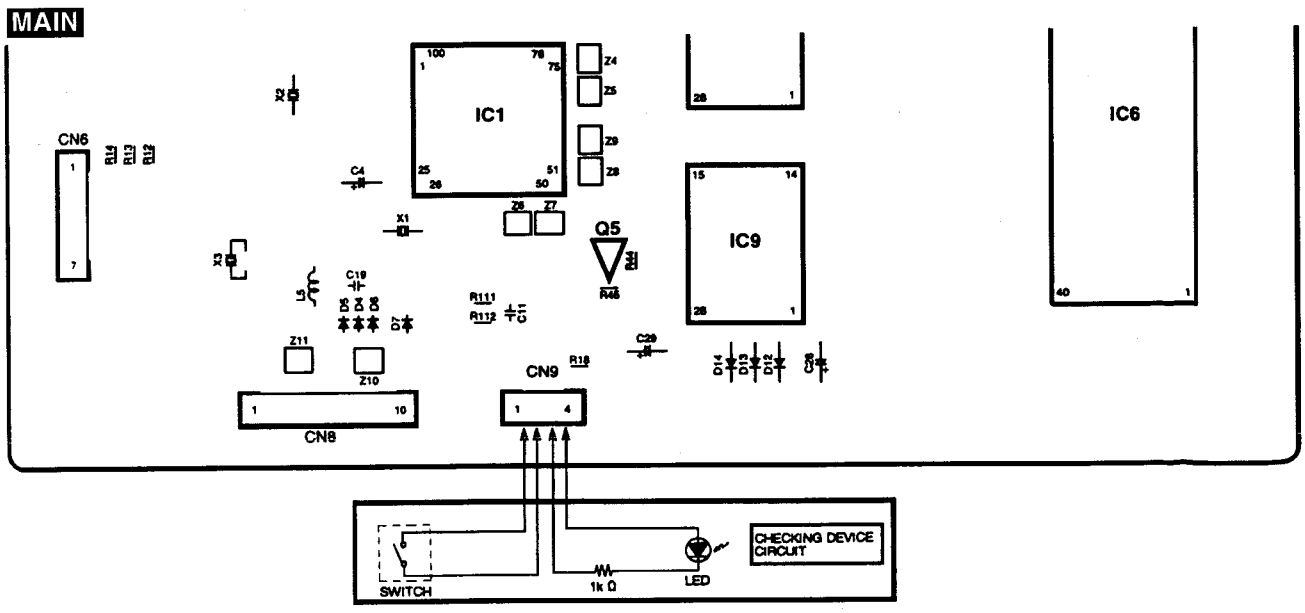
1. IC1 OK
2. IC1 defective

NOTE : ● indicates short flash time
▬ indicates long flash time

 
</td></tr>
</table>

<table>
<tr><th>No.</th><th>PCB</th><th>TEST MODE</th><th>Procedure</th></tr>
<tr><td rowspan="2">3</td><td rowspan="2">MAIN</td><td>Wave ROM check
MAIN: IC12, IC18</td><td>1. Press and hold the two E keys shown below, and then turn on the power switch.
2. Select the VIBES sound.
 
</td></tr>
<tr><td colspan="2">When set to the self-diagnostic mode, the Wave ROM outputs a sine wave. The Wave ROMs correspond to the keyboard keys as shown in the diagram to the right. When a key is pressed, the corresponding sine wave sound is produced. If no sound is produced, or if the sound is distorted, the Wave ROM corresponding to that key is defective.
• The key number indicates the Wave ROM number. (I-①:IC12, I-②:IC18)
 
</td></tr>
<tr><td rowspan="2">4</td><td rowspan="2">CPL
CPR</td><td>Control Panel LED check</td><td>Press and hold the two F keys shown below, and then turn on the power switch.
 
</td></tr>
<tr><td colspan="2">Press the buttons on the control panel and confirm that the corresponding LEDs light.</td></tr>
<tr><td rowspan="2">5</td><td rowspan="2">MKB</td><td>Keyboard ROM (IC1) check</td><td>Press and hold the two B keys shown below, and then turn on the power switch.
 
</td></tr>
<tr><td colspan="2">If the keyboard ROM (IC1) is OK, one or two confirming beep will sound. If it is defective, five times of consecutive error.</td></tr>
</table>

■ Connection between serving CHECKING DEVICE and MAIN P.C.B.



MIDI IMPLEMENTATION CHART

Digital Piano [SX-PX226/PX226M/PX228B]

Function		Transmitted	Recognized	Remarks
Basic Chanel	Default	1–16	1–16	memorized
	Changed	1–16	1–16	
Mode	Default	3	1, 3	memorized
	Messeages	×	×	
	Altered	—	—	
Note Number		*21–108	0–127	
	True voice	—	*0–127	
Velocity	Note ON	○	○	
	Note OFF	×(9nH: V=0)	×	
After Touch	Key's	×	×	
	Ch's	×	×	
Pitch Bend		×	○	
Control Change	01	×	**○	modulation
	06, 38	×	**○	data entry
	07	×	**○	volume (part)
	10	×	**○	pan
	11	×	**○	part expression
	64	○×	○×	sustain pedal
	66	○×	○×	sostenuto pedal
	67	○×	○×	soft pedal
	91	×	**○	reverb depth
	93	○×	○×	digital efect
	100, 101	×	**○	RPN LSB, MSB
Prog Change		○×	○×	
	True #	0–127	0–17 (**0–17, 20–22)	left: 0–17, 20–22
System Exclusive		×	×	
System Common	Song Pos	×	×	
	Song sell	×	×	
	Tune	×	×	
System Real Time	Clock	×	×	
	Commands	×	×	
Aux Message	Local ON/OFF	×	○	
	All Notes OFF	×	○	
	Active Sence	○	○	
	Reset	×	×	
Notes		○×.....Whether or not the data for each of these items is transmitted or received can be set. *Changed depending on the **TRANSPOSE** setting. **Effective only in the MULTI TIMBRE mode.		

Mode 1: OMNI ON, POLY **Mode 2:** OMNI ON, MONO ○: Yes
Mode 3: OMNI OFF, POLY **Mode 4:** OMNI OFF, MONO ×: No

PRECAUTIONS BEFORE SERVICING

■ Precautions for measuring of the output waveforms.

1. The waveform was measured with a "National Digital Storage Oscilloscope VP-5730A". Therefore the waveforms of musical tone signals shown may differ somewhat due to the difference in the timing of triggering.
2. Since the 1/10 test probe is used, the indicated voltage value on the bottom part of each waveform photo is 1/10 of the actual value (e.g. 0.2 V/cm should be 2.0 V/cm).
3. To measure the waveforms, first set this unit to the self-diagnostic mode (refer to page I-14, No. 3). The Wave ROM output will then be output as a sine wave to facilitate the servicing check.

■ Important safety notice:

Components identified by a ⚠ mark have special characteristics impotant for safety.
When replacing any of these components, use only manufacture's specified parts.

■ Symbolic Marks

The symbolic marks for resistors and capacitors which used in this circuits are classified as following TABLE-1 and TABLE-2.

1. RESISTORS
   - Resistors without symbolic mark are FIXED CARBON FILM RESISTORS (ERD-type).
   - All resistors are 1/4 WATT, ±5 % TOLERANCE unless otherwise designated in schematic diagrams.

(TABLE-1)

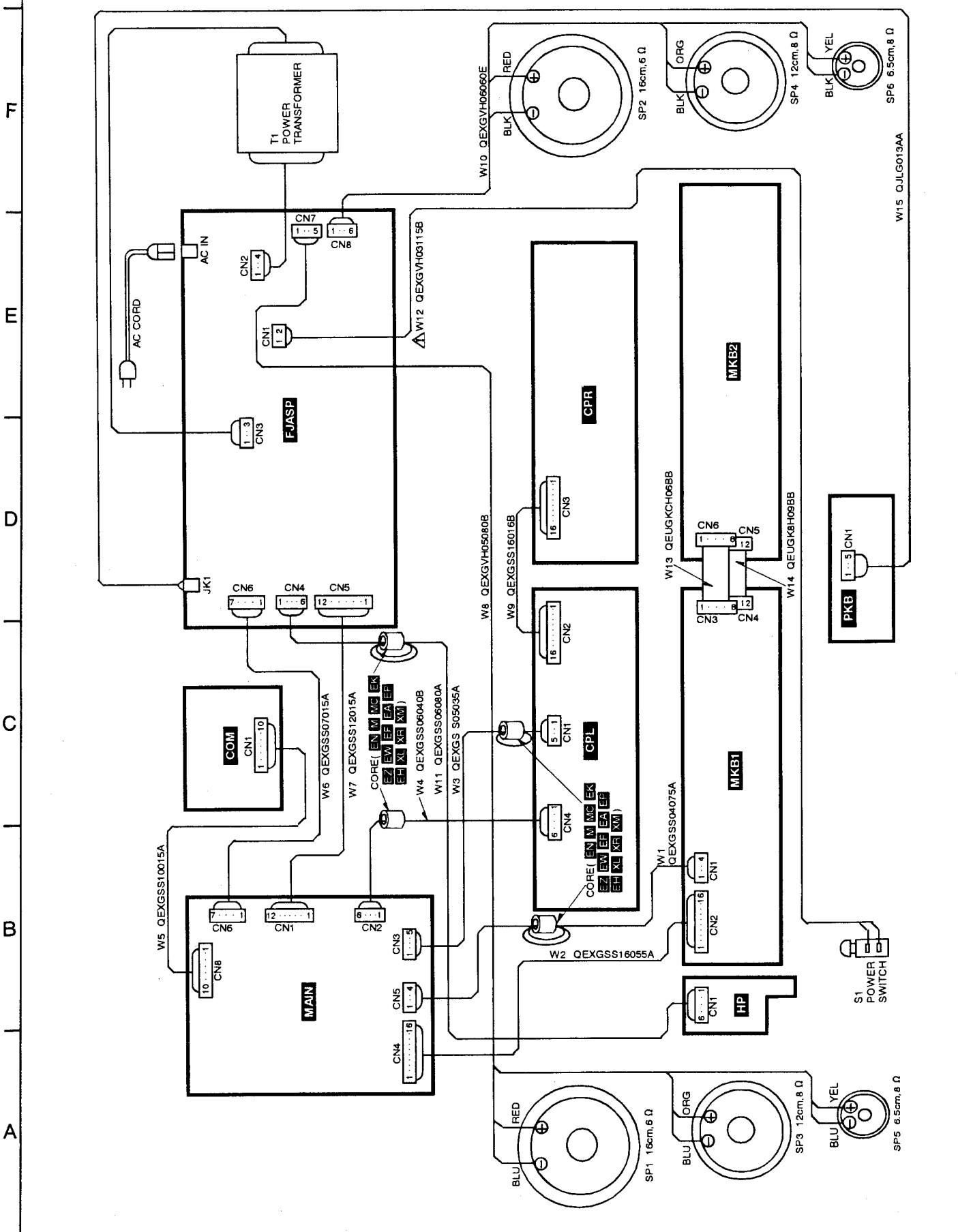
SYMBOL	SPECIFICATION	SYMBOL	SPECIFICATION
Ⓕ	Fixed Carbon Film Resistors "FLAME-PROOF" (ERD—F—type)	Ⓕ	Fixed Metal Film Resistors "FLAME-PROOF" (ERX—type)
Ⓕ	Fixed Wire Wound Resistors "FLAME-PROOF" (ERF—type)	[F]	Fuse Type Fixed Metal Oxide Film Resistors "FLAME-PROOF" (ERQ—type)
Ⓕ	Fixed Metal Oxide Film Resistors "FLAME-PROOF" (ERG—type)	[F]	Fuse Type Fixed Carbon File Resistors "FLAME-PROOF" (ERD2FC—type)
Ⓖ	Fixed Metal Film Resistors (Precision and High Stability) (ERO—type)		

2. CAPACITORS
   - Capacitors without symbolic mark are POLYESTER CAPACITORS. (ECQM-type, ECQG-type, ±10 % Tolerance)
   - Polarized capacitors without symbolic mark are Aluminum Electrolytic Capapcitors. (ECEA-type, ±20 % Tolerance)

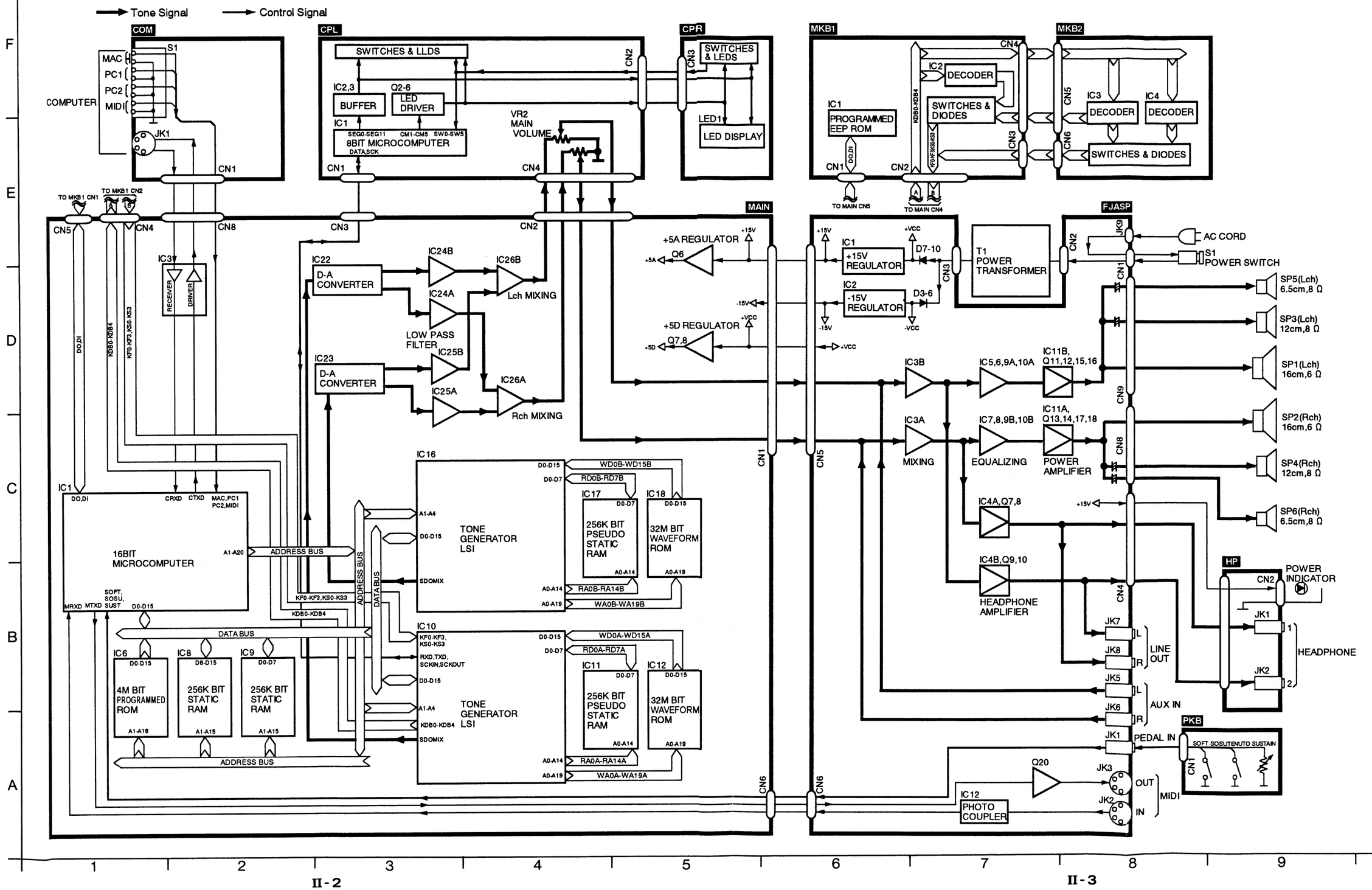
(TABLE-2)

SYMBOL	SPECIFICATION	TYPE
Ⓝ	Non-Polarized Electrolytic Capacitors	ECEA_KN_type
Ⓨ	Non-Polarized Electrolytic (for Network system)	ECEA_Y_type
Ⓣ	Tantalum Solid Electrolytic Capacitors	ECS_type
ⓉⒻ	Metalized Plastic Film Capacitors (TF Series)	ECQV_type
○	Temperature Compensating Ceramic Capacitors	ECC_type
	High-Dielectric Constant Ceramic Capacitors	ECK_type ECR_type
	Axial Lead Ceramic Capacitors	ECB_type
	Metalized Polyester Film Capacitors for Across the Line	ECQ_EW_type
	Aluminum Electrolytic Capacitors for Smoothing Circuit	ECES_type
	Multilayer Ceramic Chip Capacitors	ECUV_type

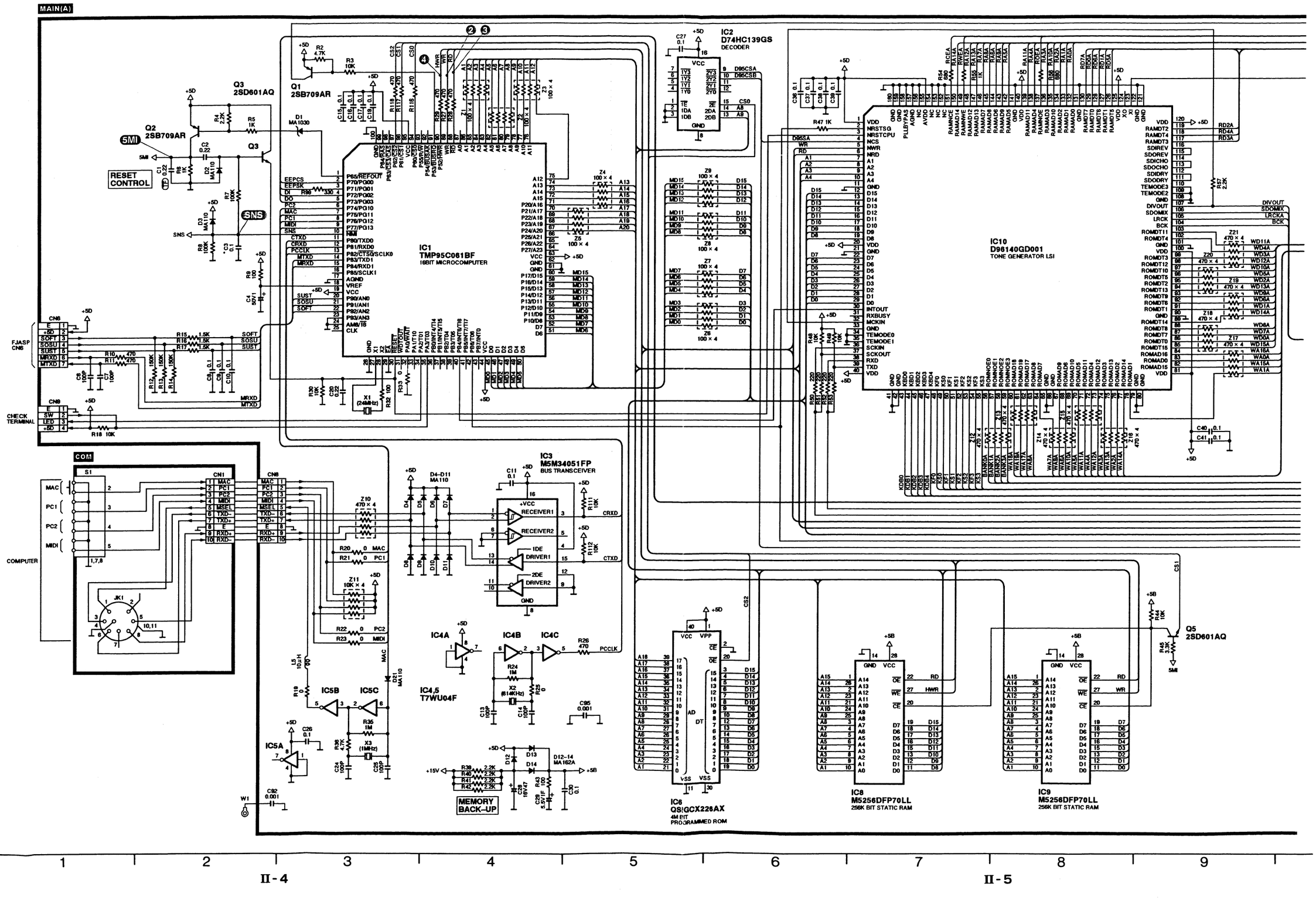
WIRING CONNECTION Diagram



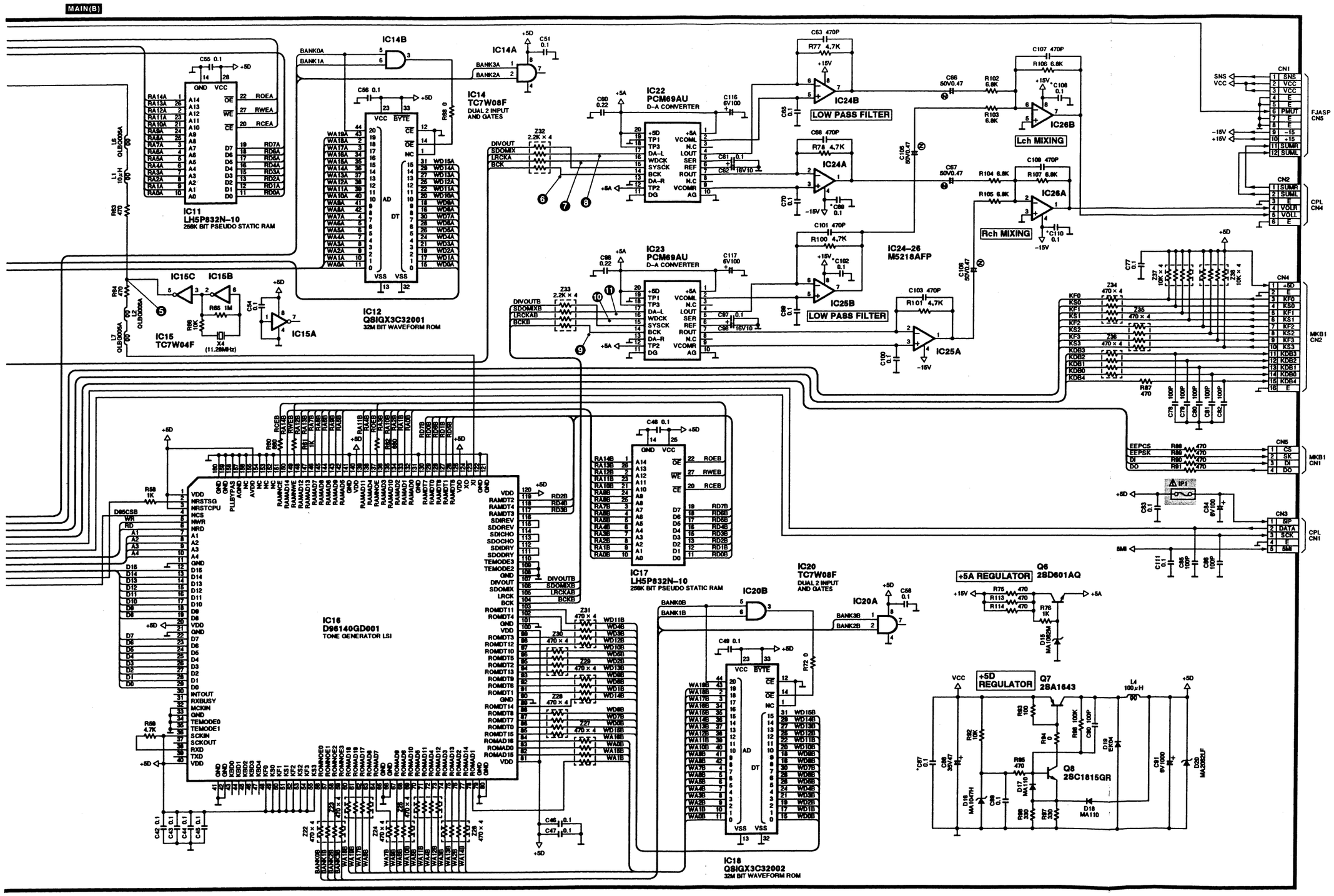
BLOCK Diagram



MAIN (A)/COM P.C. Diagram

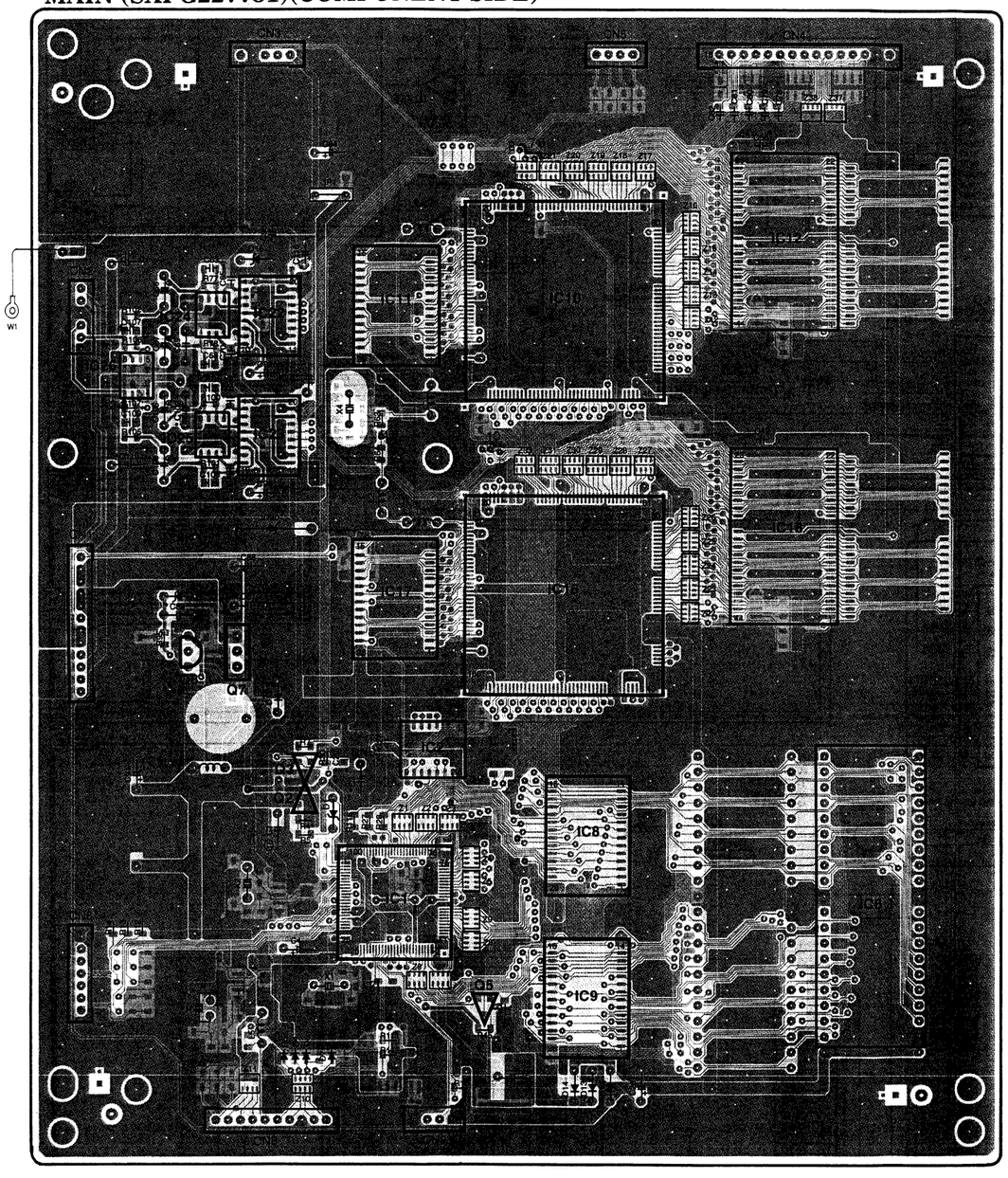


MAIN (B) P.C. Diagram

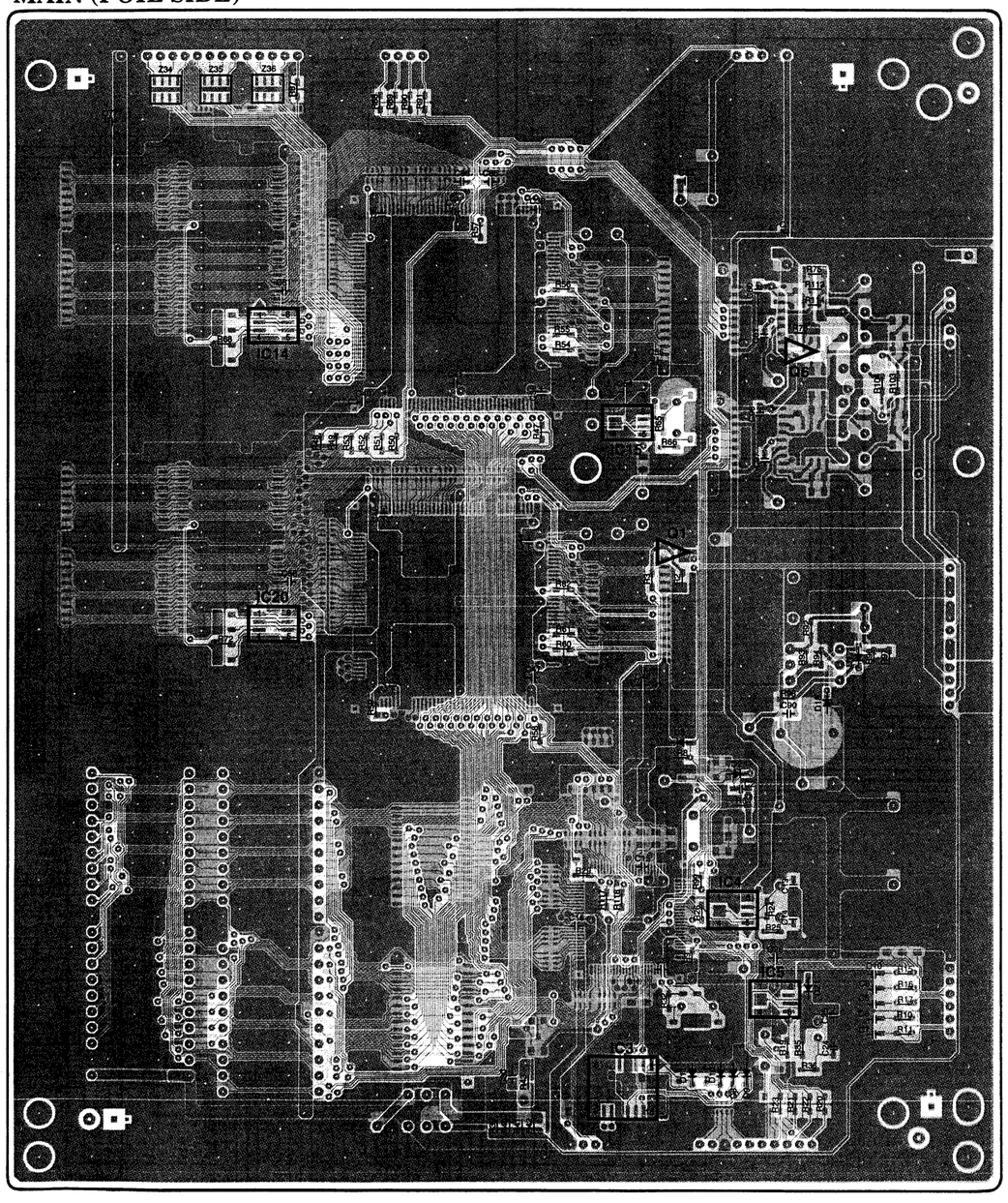


MAIN P.C. Board

MAIN (SXPG227731)(COMPONENT SIDE)



MAIN (FOIL SIDE)



COM P.C. Board/PKB

WAVEFORM OF MAIN　MAINの波形

■Measuring Condition　■波形の測定条件

Check Point ❻～ ⓫

Set to the self-diagnostic mode followings.

While pressing two E keys(①)simultaneously,turn on the power switch.

次のように自己診断モードに設定してください。

2つのEキー(①)を同時に押しながら、電源スイッチをオンする。

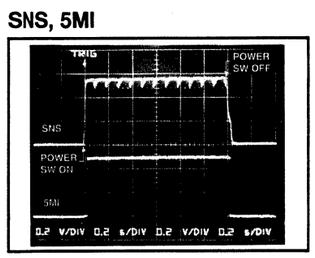
SOUND.....HARPSI

Main Volume.....MAX

Keyboard.....A1(②)

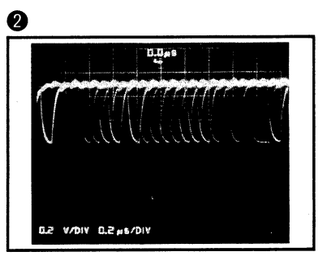
② A_1 Key　① E Keys (E_{44}・E_{56})

SNS, 5MI

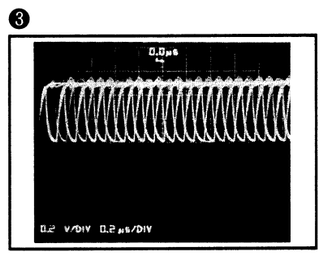


● POWER SW..... ON → OFF

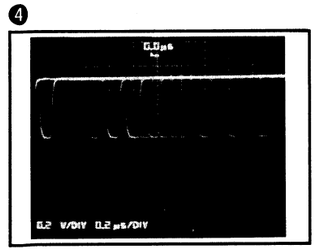
❷



❸



❹



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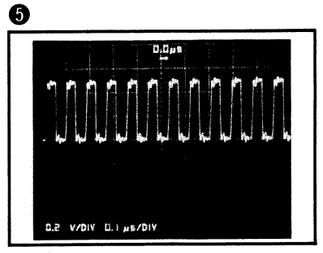

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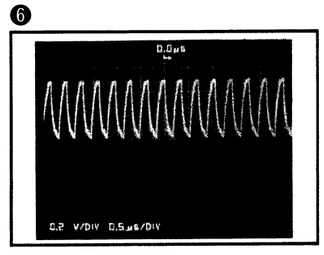

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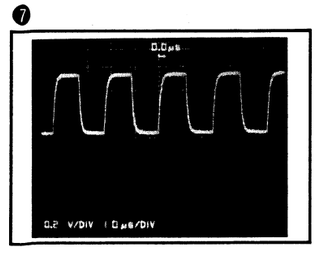

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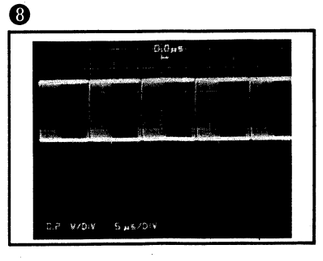
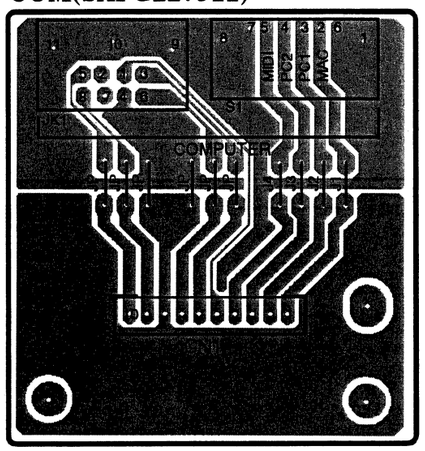
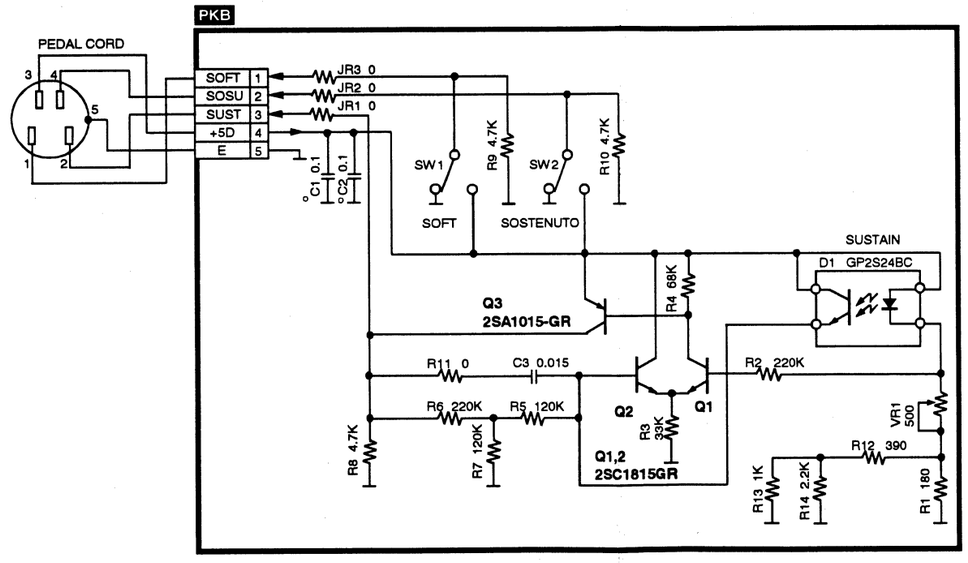
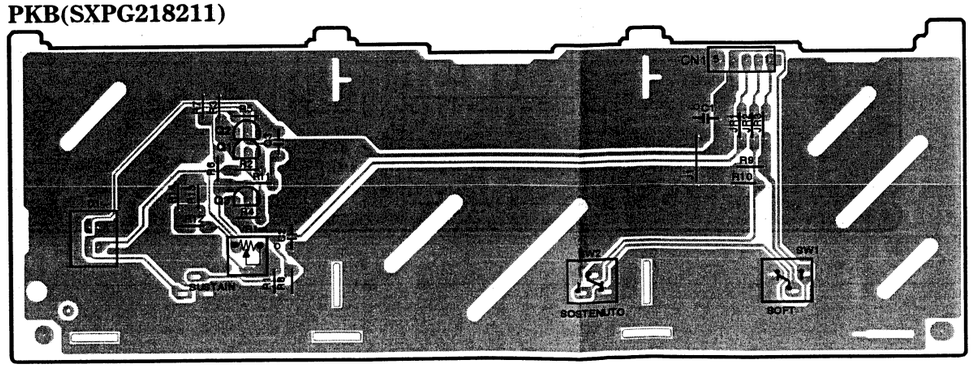


COM(SXPG227911)



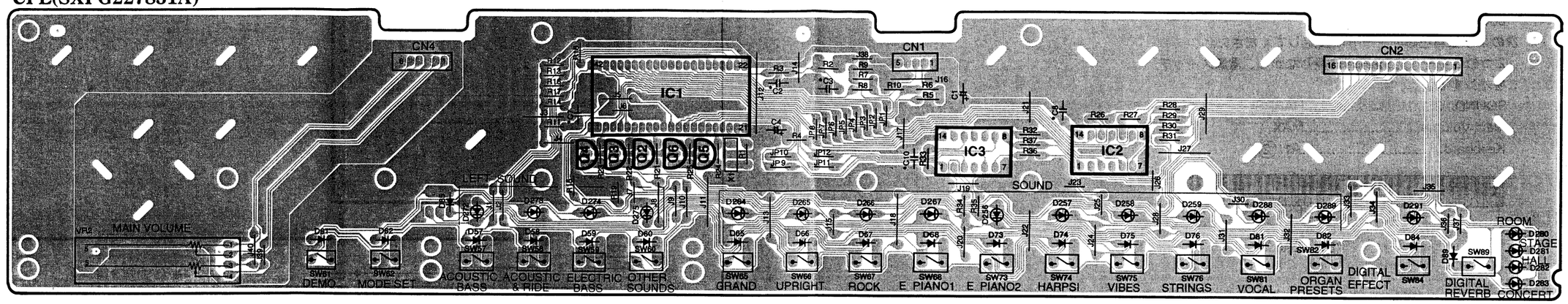


PKB(SXPG218211)

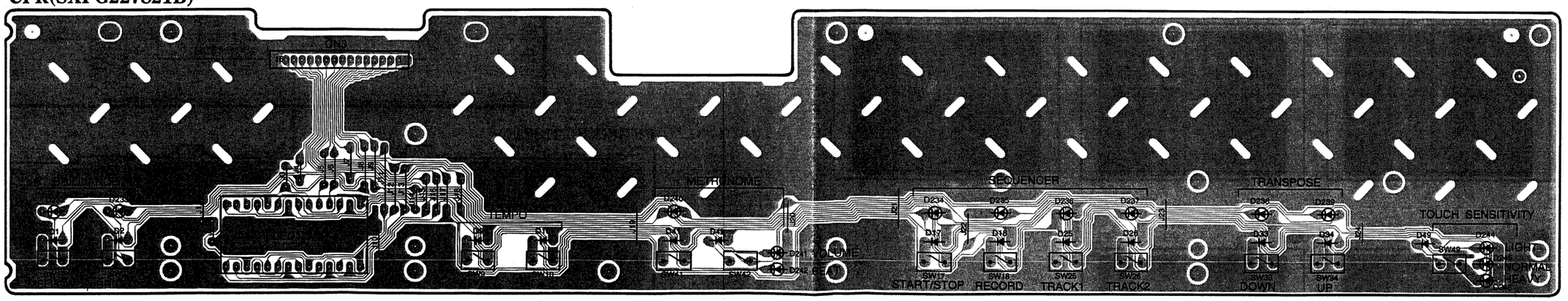


CPL/CPR P.C. Board

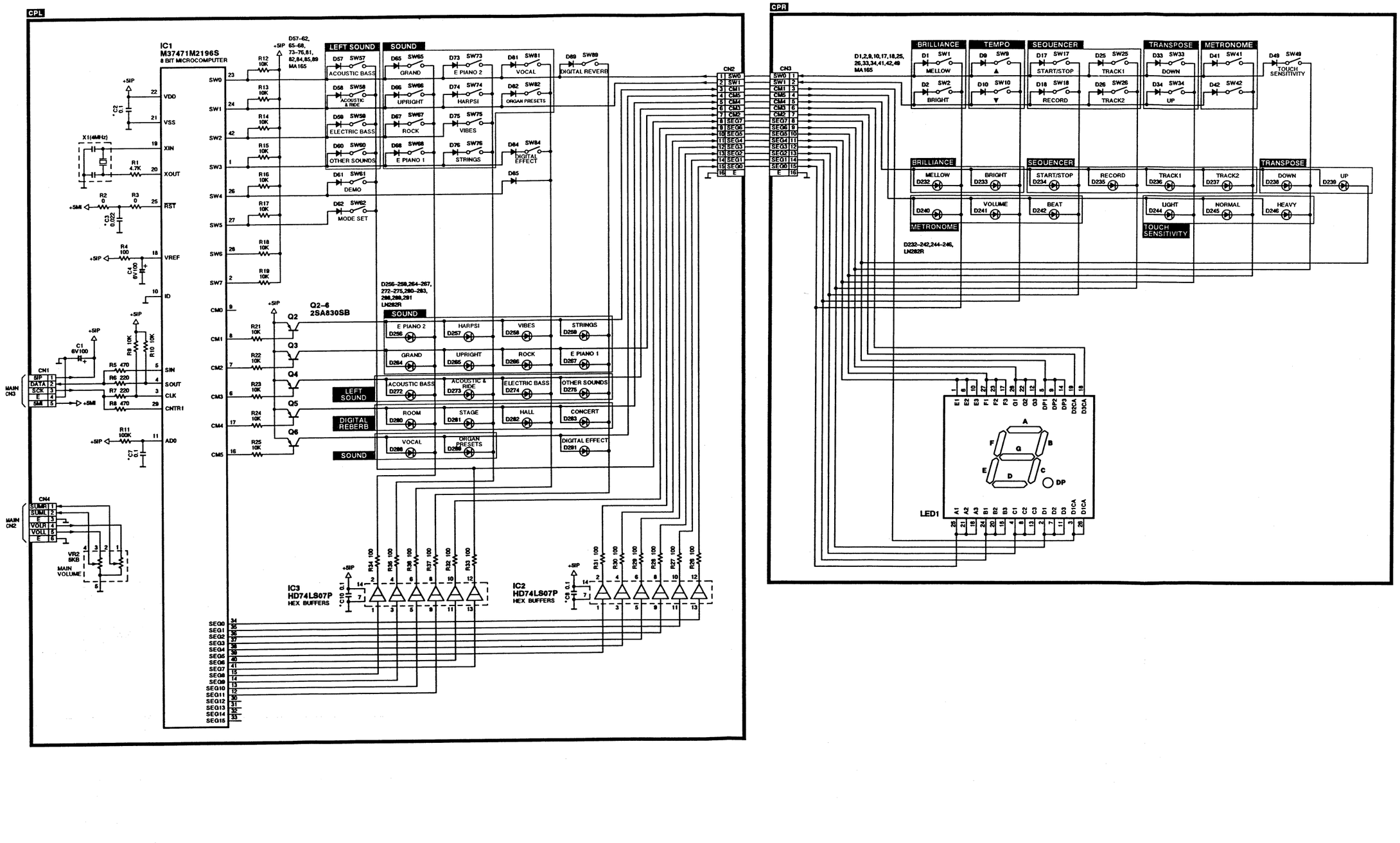
CPL(SXPG227831A)



CPR(SXPG227821B)

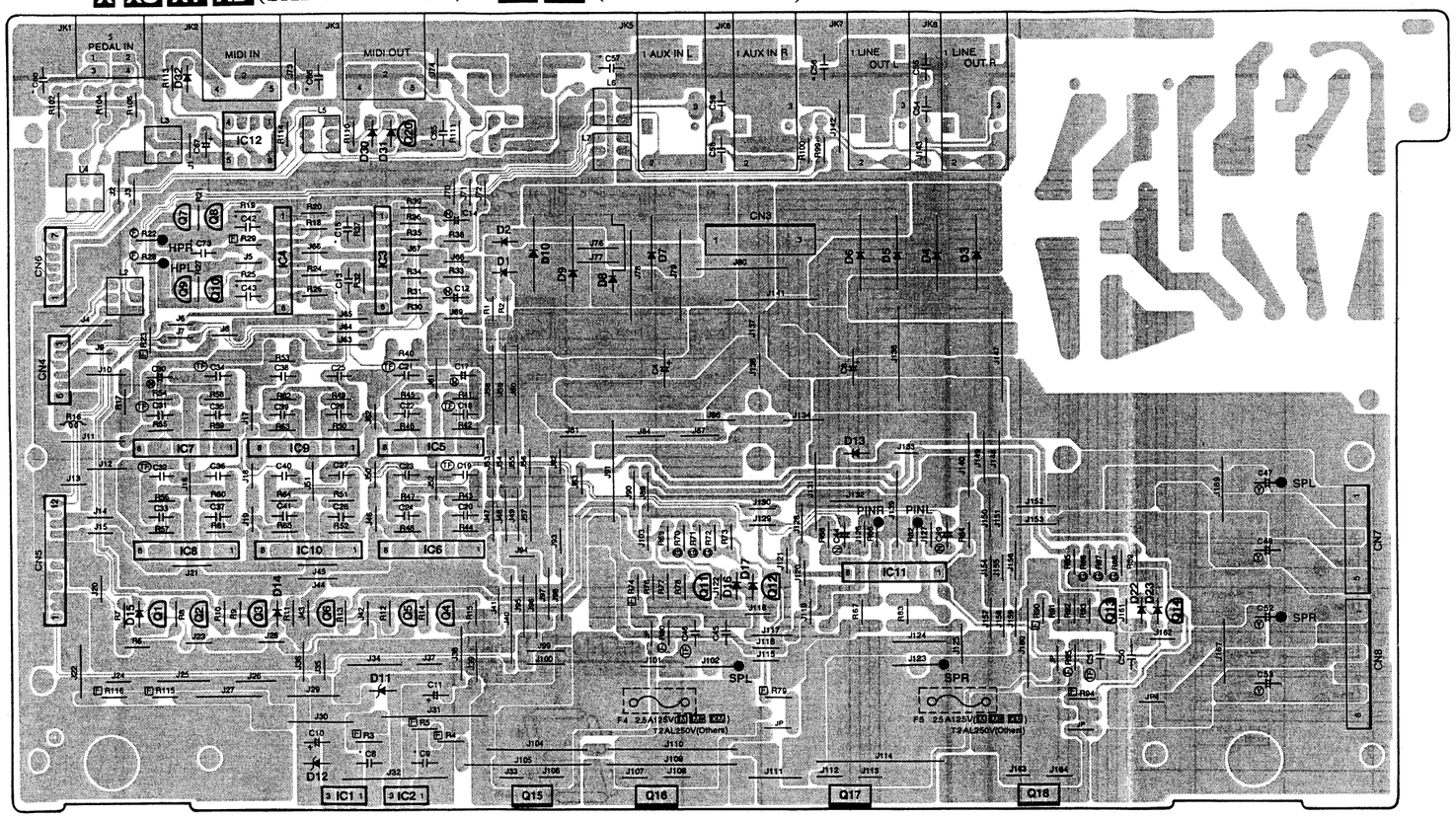


CPL/CPR P.C. Diagram

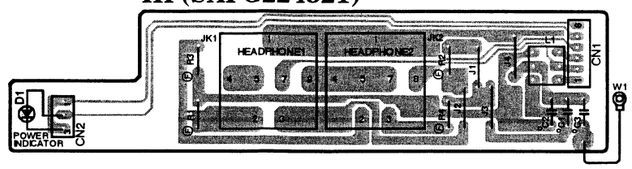


FJASP/HP P.C. Board

FJASP M MC XM (SXPG2241111A) Others (SXPG2241101A)
X XS XT XD (SXPG2241131A) XL XR (SXPG2241121A)



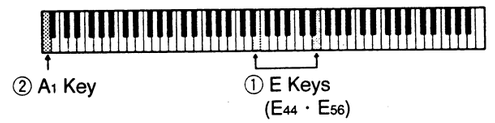
HP(SXPG224321)



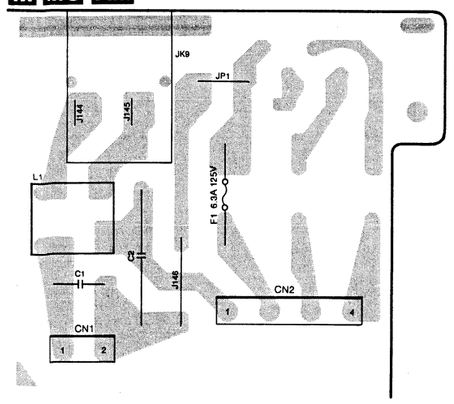
WAVEFORM OF FJASP FJASPの波形

■ Measuring Condition ■波形の測定条件

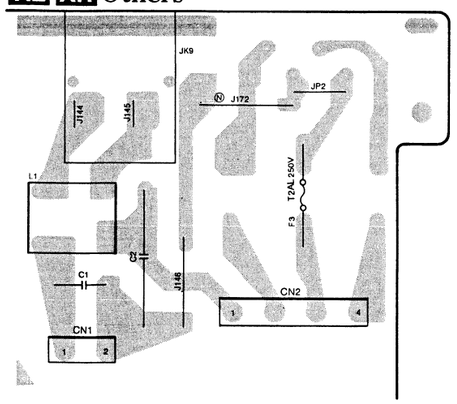
Check Point SPL,SPR,PINL,PINR,SUML,SUMR,HPL,HPR
Set to the self-diagnostic mode followings.
While pressing two E keys(①)simultaneously,turn on the power switch.
次のように自己診断モードに設定してください。
２つのＥキー(①)を同時に押しながら、電源スイッチをオンする。
SOUND.....HARPSI
Main Volume.....MAX
Keyboard.....A1(②)



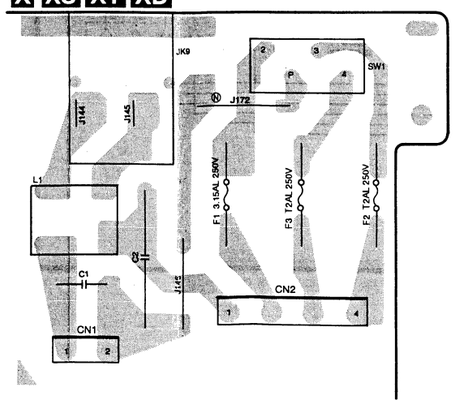
M MC XM



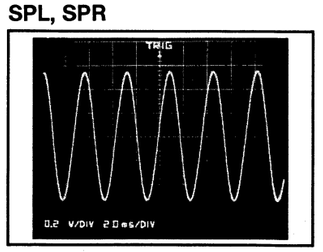
XL XR Others



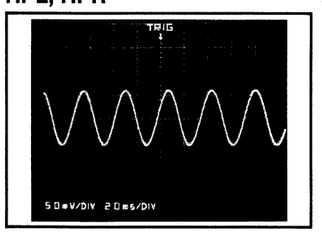
X XS XT XD



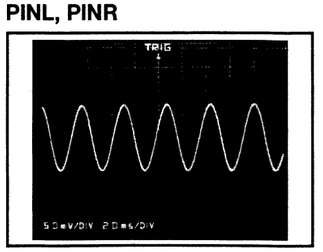
SPL, SPR



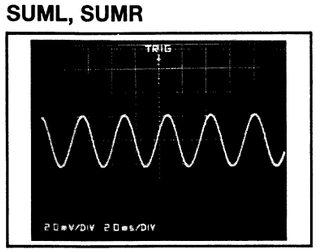
HPL, HPR



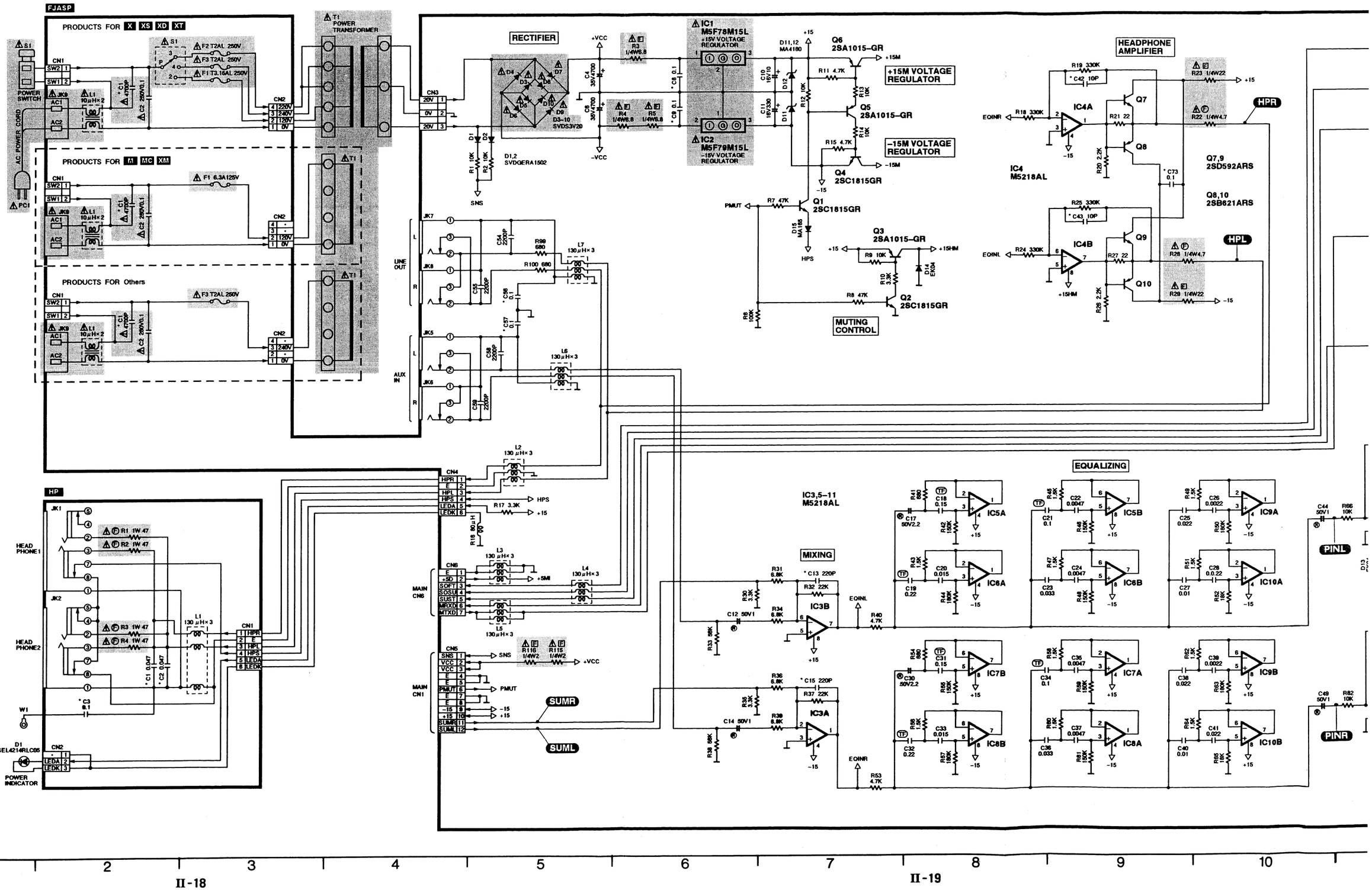
PINL, PINR



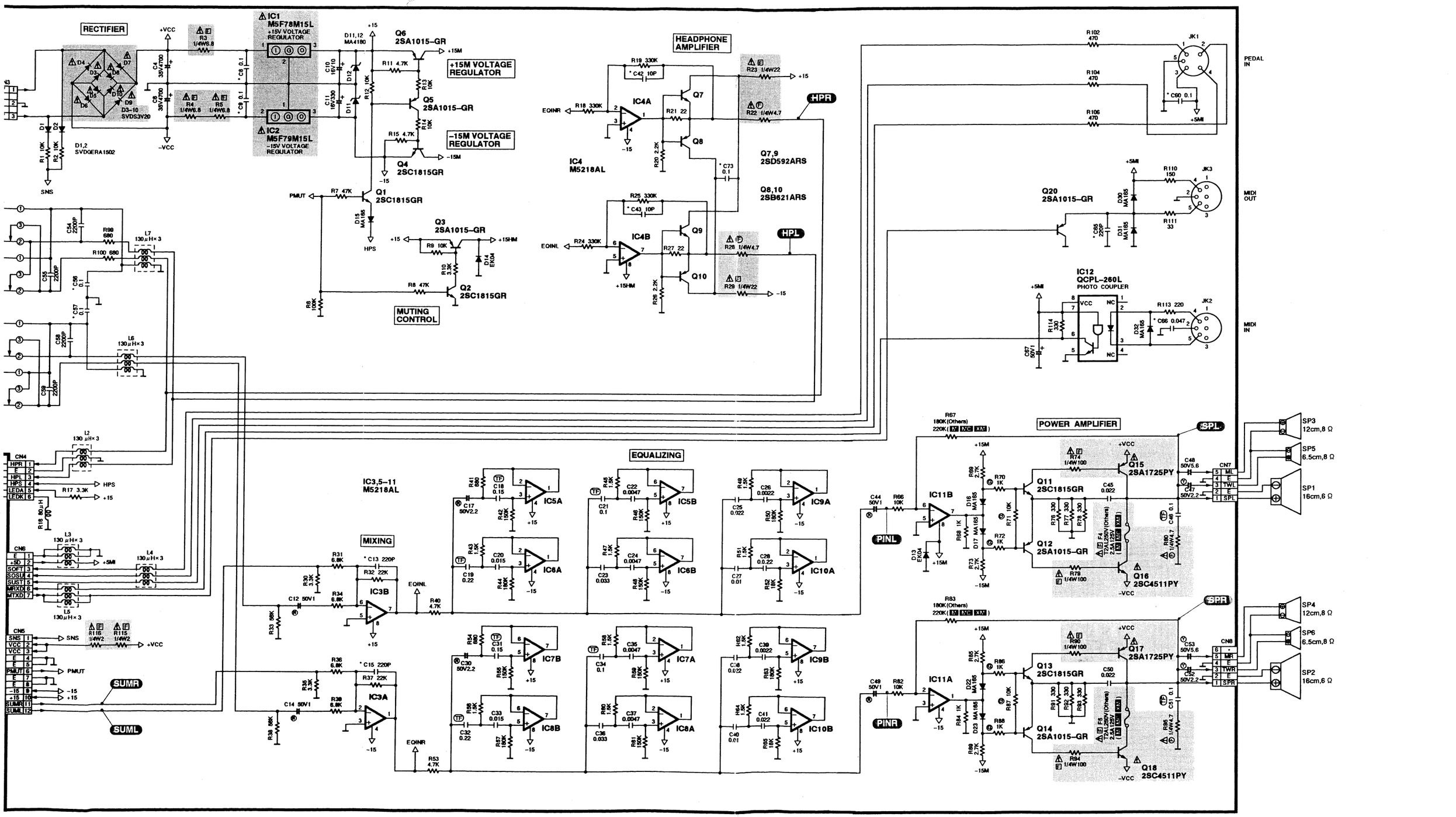
SUML, SUMR



FJASP/HP P.C. Diagram

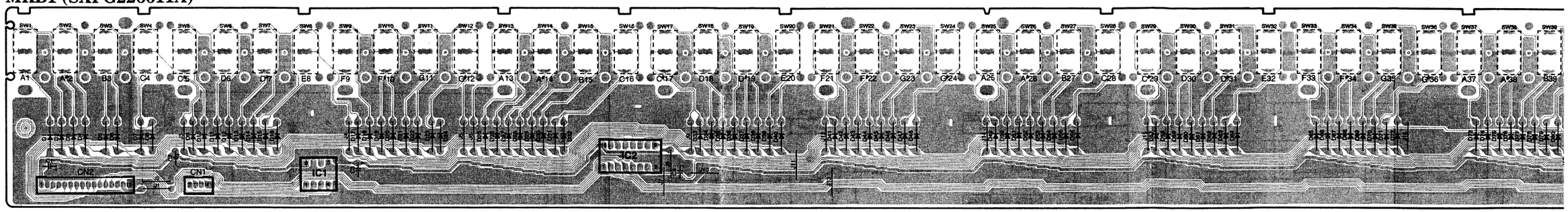


II-18 II-19

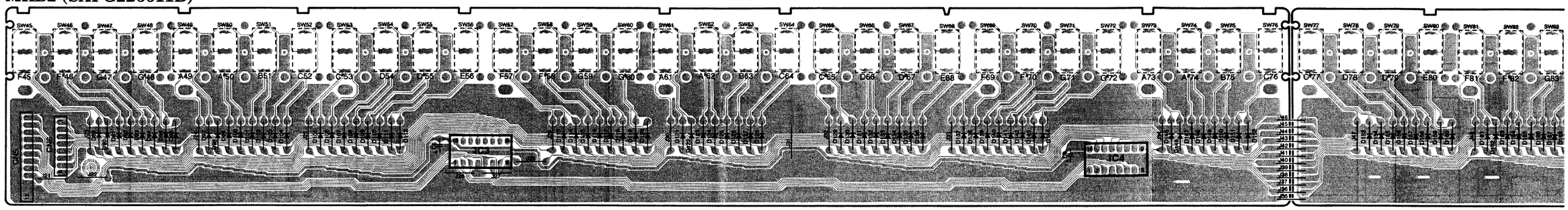

RECTIFIER
D1,2 SVDGERA1502
D3–10 SVDS3V20
IC1 M5F78M15L +15V VOLTAGE REGULATOR
IC2 M5F79M15L –15V VOLTAGE REGULATOR
+15M VOLTAGE REGULATOR
–15M VOLTAGE REGULATOR
Q6 2SA1015–GR
Q5 2SA1015–GR
Q4 2SC1815GR
Q1 2SC1815GR
Q3 2SA1015–GR
Q2 2SC1815GR
MUTING CONTROL
HEADPHONE AMPLIFIER
IC4 M5218AL
IC4A
IC4B
Q7,9 2SD592ARS
Q8,10 2SB621ARS
HPR
HPL
IC12 QCPL–260L PHOTO COUPLER
Q20 2SA1015–GR
PEDAL IN
MIDI OUT
MIDI IN
POWER AMPLIFIER
Q11 2SC1815GR
Q12 2SA1015–GR
Q13 2SC1815GR
Q14 2SA1015–GR
Q15 2SA1725PY
Q16 2SC4511PY
Q17 2SA1725PY
Q18 2SC4511PY
SPL
SPR
SP1 16cm,6 Ω
SP2 16cm,6 Ω
SP3 12cm,8 Ω
SP4 12cm,8 Ω
SP5 6.5cm,8 Ω
SP6 6.5cm,8 Ω
EQUALIZING
MIXING
IC3,5–11 M5218AL
IC3A
IC3B
IC5A
IC5B
IC6A
IC6B
IC7A
IC7B
IC8A
IC8B
IC9A
IC9B
IC10A
IC10B
IC11A
IC11B
PINL
PINR
SUML
SUMR
SNS
PMUT
HPS
EQINL
EQINR

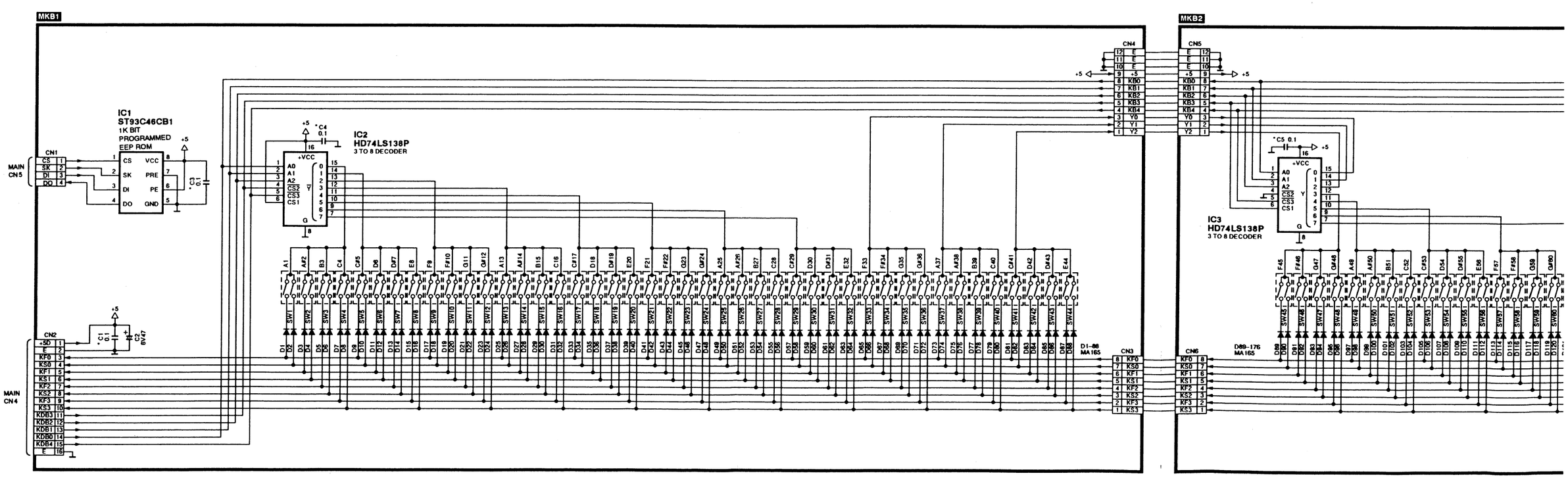
MKB1/MKB2

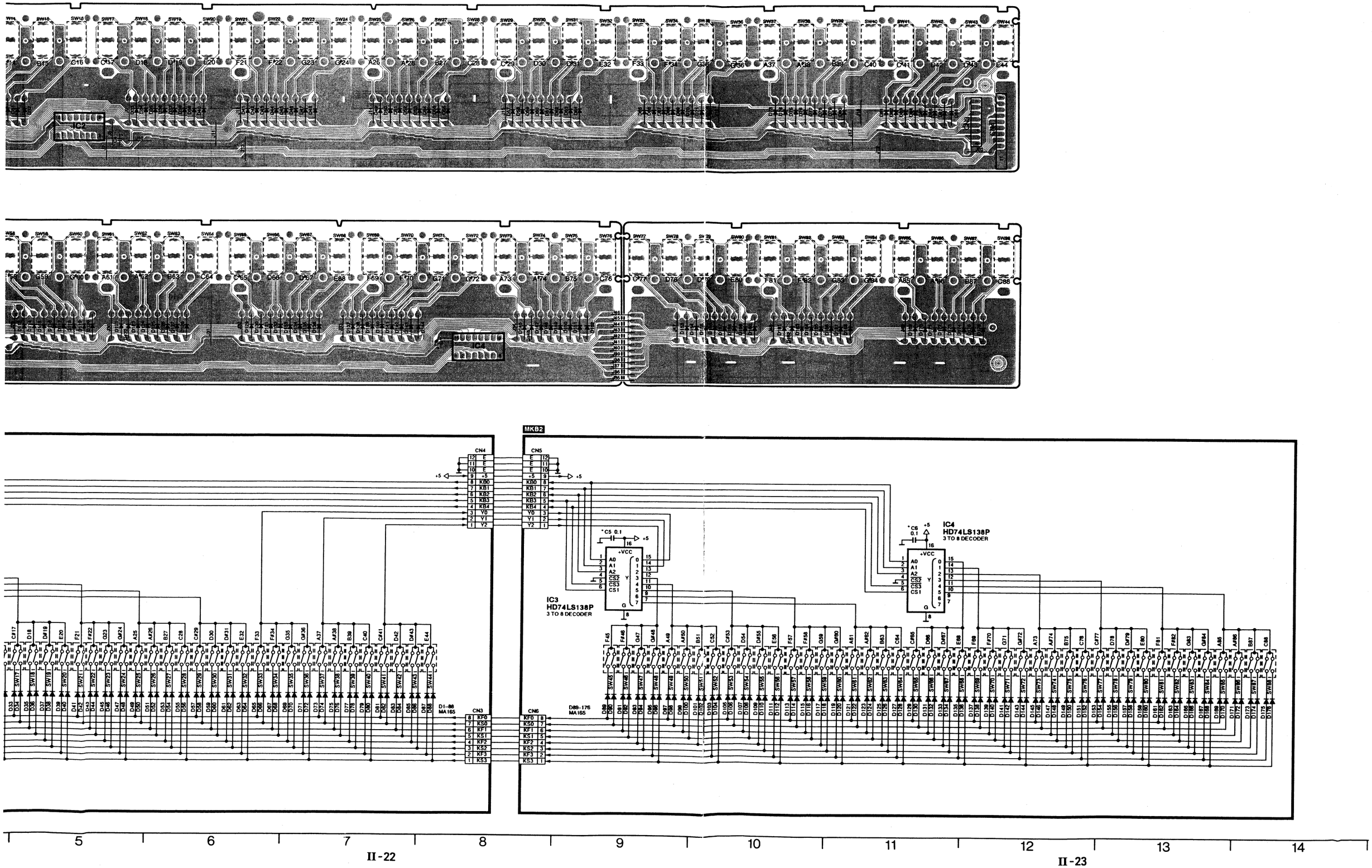
MKB1 (SXPG226611A)



MKB2 (SXPG226611B)






MKB2
CN4
CN5
CN3
CN6
IC2
IC3
HD74LS138P
3 TO 8 DECODER
IC4
HD74LS138P
3 TO 8 DECODER
*C5 0.1
*C6 0.1
+VCC
+5
D1-88
MA165
D89-176
MA165

REPLACEMENT PARTS LIST.....P.C.B. and Wiring Parts

Notes:

1. The marking(RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retension period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention.
   After the end of this period, the assembly will no longer be available.
2. Important safety notice
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components,use only manufacturer's specified parts.
3. The "S" mark is service standard parts and may differ from producton parts.
4. ○ mark are new parts.
5. For part No. with area mark, check the area when placing an order.

■PRINTED CIRCUIT BOARD

	RTL	Area	Part No.	Description	P/S
○	RTL		SXPG227731	MAIN	1
	RTL		SXPG227911	COM	1
	RTL		SXPG218211	PKB	1
○	RTL		SXPG227831A	CPL	1
	RTL		SXPG227821B	CPR	1
○	RTL	EN EK EZ EW EF EA EP EH XP XW	SXPG2241101A	FJASP	1
○	RTL	M MC XM	SXPG2241111A	FJASP	1
○	RTL	XL XR	SXPG2241121A	FJASP	1
○	RTL	X XS XT XD	SXPG2241131A	FJASP	1
	RTL		SXPG224321	HP	1
	RTL		SXPG226611A	MKB1	1
	RTL		SXPG226611B	MKB2	1

MAIN MAIN CIRCUIT

	Ref.No.	Parts No.	Description	P/S
		INTEGRATED CIRCUITS		
	IC1	TMP95C061BF	16BIT MICROCOMPUTER	1
	IC2	D74HC139GS	DECODER	1
	IC3	M5M34051FP	BUS TRANSCEIVER	1
	IC4,5	T7WU04F	TRIPLE INVERTER	2
○	IC6	QSIGCX226AX	4M BIT PROGRAMMED EP ROM	1
	IC6-1	(HN27C4096G10	(BLANK ROM)	1
	IC8,9	M5256DFP70LL	256K BIT STATIC RAM	2
	IC10	D96140GD001	TONE GENERATOR LSI	1
	IC11	LH5P832N-10	256K BIT PSEUDO STATIC RAM	1
	IC12	QSIGX3C32001	32M BIT WAVEFORM ROM	1
	IC14	TC7W08F	DUAL 2-INPUT AND GATES	1
	IC15	TC7W04F	TRIPLE INVERTER	1
	IC16	D96140GD001	TONE GENERATOR LSI	1
	IC17	LH5P832N-10	256K BIT PSEUDO STATIC RAM	1
	IC18	QSIGX3C32002	32M BIT WAVEFORM ROM	1
	IC20	TC7W08F	DUAL 2-INPUT AND GATES	1
	IC22,23	PCM69AU	D-A CONVERTER	2
	IC24-26	M5218AFP	OPERATIONAL AMPLIFIER	3
		TRANSISITORS		
	Q1,2	2SB709AR	TRANSISTOR	2
	Q3,5,6	2SD601AQ	TRANSISTOR	3
	Q7	2SA1643	TRANSISTOR	1
S	Q8	2SC1815GR	TRANSISTOR	1
		DIODES		
	D1	MA1030	ZENER,3.0V	1
	D2-11	MA110	DIODE	10
S	D12-14	MA162A	MA150IR(SUB. PART)	3
	D15	MA1062M	ZENER,6.2V	1
	D16	MA1047H	ZENER,4.7V	1
	D17,18	MA110	DIODE	2
	D19	EK04	DIODE	1
	D20	MA2062LF	ZENER,6.2V	1
	D21	MA110	DIODE	1
		OSCILLATORS		
	X1	QSXG2F2400A	24MHz,CERAMIC OSCILLATOR	1
	X2	QSXG2FR614DA	614KHz,CERAMIC OSCILLATOR	1
	X3	QSXG2F0100DA	1MHz,CERAMIC OSCILLATOR	1
	X4	QSXG1A1128A	11.28MHz,CRYSTAL OSCILLATOR	1
		COMPONENT COMBINATIONS		
	Z1-9	EXBV8V101J	100 Ω × 4	9
	Z10	EXBV8V471J	470 Ω × 4	1
	Z11	EXBV8V103J	10K Ω × 4	1
	Z12-31	EXBV8V471J	470 Ω × 4	20
	Z32,33	EXBV8V222J	2.2K Ω × 4	2
	Z34-36	EXBS8V471J	470 Ω × 4	3
	Z37,38	EXBV8V103J	10K Ω × 4	2
		COILS		
	L1	QLQGT1B100MA	10 μ H	1
	L2	QLBG005A	COIL	1
	L4	QLQGT1B101KA	100 μ H	1
	L5	QLQGT1B100MA	10 μ H	1
	L6,7	QLBG005A	COIL	2
		IC PROTECTOR		
	IP1 ⚠	ICP-N10T104	IC PROTECTOR	1
		WIRE		
	W1	QEXGRA01010J	WIRE	1
		RESISITORS		
	R2	ERJ6GEYJ472V	4.7k Ω	1
	R3	ERJ6GEYJ103V	10k Ω	1
	R4	ERJ6GEYJ222V	2.2k Ω	1
	R5,6	ERJ6GEYJ102V	1k Ω	2
	R7,8	ERJ6GEYJ104V	100k Ω	2
	R9	ERJ6GEYJ101V	100 Ω	1
	R10,11	ERJ6GEYJ471V	470 Ω	2
	R12-14	ERJ6GEYJ154V	150k Ω	3
	R15-17	ERJ6GEYJ152V	1.5k Ω	3
	R18	ERJ6GEYJ103V	10k Ω	1
	R19-23	ERJ6GEY0R00V	0 Ω	5
	R24	ERJ6GEYJ105V	1M Ω	1
	R25	ERJ6GEY0R00V	0 Ω	1
	R26-29	ERJ6GEYJ471V	470 Ω	4
	R30	ERJ6GEYJ103V	10k Ω	1
	R32	ERJ6GEYJ101V	100 Ω	1
	R33	ERJ6GEY0R00V	0 Ω	1
	R35	ERJ6GEYJ105V	1M Ω	1
	R36	ERJ6GEYJ472V	4.7k Ω	1
	R39-42	ERJ6GEYJ222V	2.2k Ω	4
	R43	ERJ6GEYJ101V	100 Ω	1
	R44	ERJ6GEYJ103V	10k Ω	1
	R45	ERJ6GEYJ332V	3.3k Ω	1

Ref.No.	Parts No.	Description	P/S
R47	ERJ6GEYJ102V	1k Ω	1
R48,49	ERJ6GEYJ103V	10k Ω	2
R50-53	ERJ6GEYJ221V	220 Ω	4
R54	ERJ6GEYJ681V	680 Ω	1
R55	ERJ6GEYJ102V	1k Ω	1
R56	ERJ6GEYJ681V	680 Ω	1
R57	ERJ6GEYJ222V	2.2k Ω	1
R58	ERJ6GEYJ102V	1k Ω	1
R59	ERJ6GEYJ472V	4.7k Ω	1
R60	ERJ6GEYJ681V	680 Ω	1
R61	ERJ6GEYJ102V	1k Ω	1
R62	ERJ6GEYJ681V	680 Ω	1
R63,64	ERJ6GEYJ471V	470 Ω	2
R65	ERJ6GEYJ105V	1M Ω	1
R66	ERJ6GEYJ103V	10k Ω	1
R68,72	ERJ6GEY0R00V	0 Ω	2
R75	ERJ6GEYJ471V	470 Ω	1
R76	ERJ6GEYJ102V	1k Ω	1
R77,78	ERJ6GEYJ472V	4.7k Ω	2
R87-91	ERJ6GEYJ471V	470 Ω	5
R92	ERJ6GEYJ103V	10k Ω	1
R93	ERJ6GEYJ101V	100 Ω	1
R94	ERJ6GEY0R00V	0 Ω	1
R95	ERJ6GEYJ471V	470 Ω	1
R96,97	ERJ6GEYJ331V	330 Ω	2
R98	ERJ6GEYJ104V	100k Ω	1
R99	ERJ6GEYJ331V	330 Ω	1
R100,101	ERJ6GEYJ472V	4.7k Ω	2
R102-107	ERJ6GEYJ682V	6.8k Ω	6
R111,112	ERJ6GEYJ103V	10k Ω	2
R113,114,116-118	ERJ6GEYJ471V	470 Ω	5
CAPACITORS			
C1	ECQV1H224JM	0.22 μ F	1
C2	ECUV1C224KBX	0.22 μ F	1
C3	ECRF1H104ZF	0.1 μ F	1
C4	ECEA1HKA010	1 μ F,50V	1
C6,7	ECUV1H101JG	100pF	2
C8-11	ECUV1H104ZFX	0.1 μ F	4
C13,14	ECUV1H101JG	100pF	2
C15-17,19	ECUV1H104ZFX	0.1 μ F	4
C20	ECUV1C224KBX	0.22 μ F	1
C24,25	ECUV1H101JG	100pF	2
C26,27	ECUV1H104ZFX	0.1 μ F	2
C28	ECEA1CKA470	47 μ F,16V	1
C29	EECS5R5V105	1F,5.5V,MEMORY BACK-UP	1
C30,36-49,51, 54-56,58	ECUV1H104ZFX	0.1 μ F	20
C60	ECUV1C224KBX	0.22 μ F	1
C61	ECUV1H104ZFX	0.1 μ F	1
C62	ECEA1CKA100	10 μ F,16V	1
C63	ECUV1H471JG	470pF	1
C65	ECUV1H104ZFX	0.1 μ F	1
C66,67	ECEA1HKNR47	0.47 μ F,50V	2
C68	ECUV1H471JG	470pF	1
C69	ECRF1H104ZF	0.1 μ F	1
C70,77	ECUV1H104ZFX	0.1 μ F	2
C78-82	ECUV1H101JG	100pF	5
C83	ECUV1H104ZFX	0.1 μ F	1
C84	ECEA0JKA101	100 μ F,6.3V	1
C85,86	ECUV1H101JG	100pF	2
C87	ECRF1H104ZF	0.1 μ F	1
C88	ECA1VM470	47 μ F,35V	1
C89	ECRF1H104ZF	0.1 μ F	1
C90	ECUV1H101JG	100pF	1
C91	ECA0JM102	10000 μ F,6.3V	1

Ref.No.	Parts No.	Description	P/S
C92,95	ECUV1H102JX	0.001 μ F	2
C96	ECUV1C224KBX	0.22 μ F	1
C97	ECUV1H104ZFX	0.1 μ F	1
C98	ECEA1CKA100	10 μ F,16V	1
C99	ECUV1H104ZFX	0.1 μ F	1
C100	ECUV1H104ZFX	0.1 μ F	1
C101	ECUV1H471JG	470pF	1
C102	ECRF1H104ZF	0.1 μ F	1
C103	ECUV1H471JG	470pF	1
C105,106	ECEA1HKNR47	0.47 μ F,50V	2
C107	ECUV1H471JG	470pF	1
C108	ECRF1H104ZF	0.1 μ F	1
C109	ECUV1H471JG	470pF	1
C110	ECRF1H104ZF	0.1 μ F	1
C111	ECUV1H104ZFX	0.1 μ F	1
C116,117	ECEA0JKA101	100 μ F,6.3V	2

COM COMPUTER TERMINAL CIRCUIT

Ref.No.	Parts No.	Description	P/S
JACK			
JK1	QJSG017AA	COMPUTER	1
SWITCH			
S1	QSSGT011AA	SLIDE SWITCH	1

PKB PEDAL KEYBOARD CIRCUIT

Ref.No.	Parts No.	Description	P/S
TRANSISTORS			
S Q1,2	2SC1815GR	TRANSISTOR	2
S Q3	2SA1015-GR	2SA933STRS(SUB. PART)	1
DIODE			
D1	GP2S24BC	PHOTO INTERRUPTER	1
SWITCHES			
S1,2	QSTGT001AA	LEVER SWITCH	2
VARIABLE RESISTOR			
VR1	EVND8AA03B52	500 Ω	1
RESISTORS			
JR1-3	ERDS2T0	0 Ω ,1/4W	3
R1	ERDS2TJ181	180 Ω	1
R2	ERDS2TJ224	220k Ω	1
R3	ERDS2TJ333	33k Ω	1
R4	ERDS2TJ683	68k Ω	1
R5	ERDS2TJ124	120k Ω	1
R6	ERDS2TJ224	220k Ω	1
R7	ERDS2TJ124	120k Ω	1
R8-10	ERDS2TJ472	4.7k Ω	3
R11	ERDS2T0	0 Ω ,1/4W	1
R12	ERDS2TJ391	390 Ω	1
R13	ERTD2ZGK102	1k Ω	1
R14	ERDS2TJ222	2.2k Ω	1
CAPACITORS			
C1,2	ECRF1H104ZF	0.1 μ F	2
C3	ECQB1H153JF	0.015 μ F	1

CPL CONTROL PANEL LEFT CIRCUIT

Ref.No.	Parts No.	Description	P/S
INTEGRATED CIRCUITS			
IC1	M37471M2196S	8 BIT MICROCOMPUTER	1
IC2,3	HD74LS07P	HEX BUFFERS	2
TRANSISTORS			
Q2-6	2SA830SB	TRANSISTOR	5
DIODES			
D57-62,65-68, 73-76,81,82,84, 85,89	MA165	DIODE	19
D256-259,264-267, 272-275,280-283, 288,289,291	LN282R	LED(RED)	19
OSCILLATOR			
X1	EF0EC4004A3	4MHz,CERAMIC OSCILLATOR	1
SWITCHES			
S57-62,65-68, 73-76,81,82,84,89	EVQ21507K	PUSH SWITCH	18
VARIABLE RESISTOR			
VR2	QRVG25P01B53	5K Ω B,MAIN VOLUME	1
RESISTORS			
R1	ERDS2TJ472	4.7k Ω	1
R2,3	ERDS2T0	0 Ω ,1/4W	2
R4	ERDS2TJ101	100 Ω	1
R5	ERDS2TJ471	470 Ω	1
R6,7	ERDS2TJ221	220 Ω	2
R8	ERDS2TJ471	470 Ω	1
R9,10	ERDS2TJ103	10k Ω	2
R11	ERDS2TJ104	100k Ω	1
R12-19,21-25	ERDS2TJ103	10k Ω	13
R26-37	ERDS2TJ101	100 Ω	12
CAPACITORS			
C1	ECEA0JKS101	100 μ F,6.3V	1
C2	ECRF1H104ZF	0.1 μ F	1
C3	ECBA1E223ZF	0.022 μ F	1
C4	ECEA0JKS101	100 μ F,6.3V	1
C7,8,10	ECRF1H104ZF	0.1 μ F	3

CPR CONTROL PANEL RIGHT CIRCUIT

Ref.No.	Parts No.	Description	P/S
DIODES			
D1,2,9,10,17, 18,25,26,33,34, 41,42,49	MA165	DIODE	13
D232-242, 244-246	LN282R	LED(RED)	14
DISPLAY			
LED1	LB603VF	TRIPLE 8SEGMENTS DISPLAY	1
SWITCHES			
S1,2,9,10,17,18, 25,26,33,34,41, 42,49	EVQ21507K	PUSH SWITCH	13

FJASP FILTER,JACK,AMP,POWER SUPPLYCIRCUIT

	Ref.No.		Parts No.	Description	P/S
	INTEGRATED CIRCUITS				
	IC1	⚠	M5F78M15L	+15V VOLTAGE REGULATOR	1
	IC2	⚠	M5F79M15L	-15V VOLTAGE REGULATOR	1
	IC3-11		M5218AL	OPERATIONAL AMPLIFIER	9
	IC12		QCPL-260L	PHOTO COUPLER	1
	TRANSISTORS				
S	Q1,2		2SC1815GR	TRANSISTOR	2
S	Q3		2SA1015-GR	2SA933STRS(SUB. PART)	1
S	Q4		2SC1815GR	TRANSISTOR	1
S	Q5,6		2SA1015-GR	2SA933STRS(SUB. PART)	2
	Q7		2SD592ARS	TRANSISTOR	1
	Q8		2SB621ARS	TRANSISTOR	1
	Q9		2SD592ARS	TRANSISTOR	1
	Q10		2SB621ARS	TRANSISTOR	1
S	Q11		2SC1815GR	TRANSISTOR	1
S	Q12		2SA1015-GR	2SA933STRS(SUB. PART)	1
S	Q13		2SC1815GR	TRANSISTOR	1
S	Q14		2SA1015-GR	2SA933STRS(SUB. PART)	1
	Q15	⚠	2SA1725PY	TRANSISTOR,SI 20MHz 30W	1
	Q16	⚠	2SC4511PY	TRANSISTOR,SI 20MHz 30W	1
	Q17	⚠	2SA1725PY	TRANSISTOR,SI 20MHz 30W	1
	Q18	⚠	2SC4511PY	TRANSISTOR,SI 20MHz 30W	1
S	Q20		2SA1015-GR	2SA933STRS(SUB. PART)	1
	DIODES				
	D1,2		SVDGERA1502	RECTIFIER	2
	D3-10	⚠	SVDS3V20	RECTIFIER	8
	D11,12		MA4180	ZENER,18V	2
	D13,14		EK04	DIODE	2
	D15-17,22,23, 30-32		MA165	DIODE	8
	COILS				
	L1	⚠	QLQGT2T100SA	10 μ H × 2	1
○	L2-7		QLQGT3T131TA	130 μ H × 3	6
	R16		QLQGT1B800MB	80 μ H	1
	JACKS				
	JK1		QJSG007AA	PEDAL IN	1
	JK2		QJSG016AA	MIDI IN	1
	JK3		QJSG016AA	MIDI OUT	1
	JK5		QJJG003AA	AUX IN L	1
	JK6		QJJG003AA	AUX IN R	1
	JK7		QJJG003AA	LINE OUT L	1
	JK8		QJJG003AA	LINE OUT R	1
	JK9	⚠	SJVD0203B	AC INLET	1
	SWITCH				
	S1	⚠	SSRG100A	VOLTAGE SELECTOR, X XS XT XD	1
	FUSES				
	F1	⚠	XBA1C63NU100	6.3A,125V, M MC XM	1
	F1	⚠	XBA2C31TB0	T3.15AL,250V, X XS XT XD	1
	F2	⚠	XBA2C20TB0	T2AL,250V, X XS XT XD	1
	F3	⚠	XBA2C20TB0	T2AL,250V, EN EK EZ EW EF EA EP EH XP XW XL XR X XS XT XD	1
	F4,5	⚠	XBA1C25NU100	2.5A,125V, M MC XM	2
	F4,5	⚠	XBA2C20TB0	T2AL,250V, EN EK EZ EW EF EA EP EH XP XW XL XR X XS XT XD	2
	RESISTORS				
	R1,2		ERDS2TJ103	10k Ω	2

Ref.No.	Parts No.	Description	P/S
R3-5 ⚠	ERD2FCVJ6R8	6.8 Ω ,1/4W,FUSE TYPE	3
R6	ERDS2TJ104	100k Ω	1
R7,8	ERDS2TJ473	47k Ω	2
R9	ERDS2TJ103	10k Ω	1
R10	ERDS2TJ332	3.3k Ω	1
R11	ERDS2TJ472	4.7k Ω	1
R12-14	ERDS2TJ103	10k Ω	3
R15	ERDS2TJ472	4.7k Ω	1
R17	ERDS2TJ332	3.3k Ω	1
R18,19	ERDS2TJ334	330k Ω	2
R20	ERDS2TJ222	2.2k Ω	1
R21	ERDS2TJ220	22 Ω	1
R22 ⚠	ERD25FVJ4R7	4.7 Ω ,1/4W,FLAME-PROOF	1
R23 ⚠	ERD2FCVG220	22 Ω , 1/4W,FUSE TYPE	1
R24,25	ERDS2TJ334	330k Ω	2
R26	ERDS2TJ222	2.2k Ω	1
R27	ERDS2TJ220	22 Ω	1
R28 ⚠	ERD25FVJ4R7	4.7 Ω ,1/4W,FLAME-PROOF	1
R29 ⚠	ERD2FCVG220	22 Ω , 1/4W,FUSE TYPE	1
R30	ERDS2TJ332	3.3k Ω	1
R31	ERDS2TJ682	6.8k Ω	1
R32	ERDS2TJ223	22k Ω	1
R33	ERDS2TJ563	56k Ω	1
R34	ERDS2TJ682	6.8k Ω	1
R35	ERDS2TJ332	3.3k Ω	1
R36	ERDS2TJ682	6.8k Ω	1
R37	ERDS2TJ223	22k Ω	1
R38	ERDS2TJ563	56k Ω	1
R39	ERDS2TJ682	6.8k Ω	1
R40	ERDS2TJ472	4.7k Ω	1
R41	ERDS2TJ681	680 Ω	1
R42	ERDS2TJ154	150k Ω	1
R43	ERDS2TJ152	1.5k Ω	1
R44	ERDS2TJ184	180k Ω	1
R45	ERDS2TJ152	1.5k Ω	1
R46	ERDS2TJ154	150k Ω	1
R47	ERDS2TJ152	1.5k Ω	1
R48	ERDS2TJ154	150k Ω	1
R49	ERDS2TJ152	1.5k Ω	1
R50	ERDS2TJ184	180k Ω	1
R51	ERDS2TJ152	1.5k Ω	1
R52	ERDS2TJ183	18k Ω	1
R53	ERDS2TJ472	4.7k Ω	1
R54	ERDS2TJ681	680 Ω	1
R55	ERDS2TJ154	150k Ω	1
R56	ERDS2TJ152	1.5k Ω	1
R57	ERDS2TJ184	180k Ω	1
R58	ERDS2TJ152	1.5k Ω	1
R59	ERDS2TJ154	150k Ω	1
R60	ERDS2TJ152	1.5k Ω	1
R61	ERDS2TJ154	150k Ω	1
R62	ERDS2TJ152	1.5k Ω	1
R63	ERDS2TJ184	180k Ω	1
R64	ERDS2TJ152	1.5k Ω	1
R65	ERDS2TJ183	18k Ω	1
R66	ERDS2TJ103	10k Ω	1
R67	ERDS2TJ224	220k Ω , M MC XM	1
R67	ERDS2TJ184	180k Ω , EN EK EZ EW EF EA EP EH XP XW XL XR X XS XT XD	1
R68	ERDS2TJ102	1k Ω	1
R69	ERDS2TJ272	2.7k Ω	1
R70	ER0S2CKF1001	1k Ω , ± 1%	1
R71	ER0S2CKF1002	10k Ω , ± 1%	1
R72	ER0S2CKF1001	1k Ω , ± 1%	1
R73	ERDS2TJ272	2.7k Ω	1
R74 ⚠	ERD2FCVG101	100 Ω ,1/4W,FUSE TYPE	1

Ref.No.	Parts No.	Description	P/S
R76-78	ERDS2TJ331	330 Ω	3
R79 ⚠	ERD2FCVG101	100 Ω ,1/4W,FUSE TYPE	1
R80 ⚠	ERD25FVJ4R7	4.7 Ω ,1/4W,FLAME-PROOF	1
R82	ERDS2TJ103	10k Ω	1
R83	ERDS2TJ224	220k Ω , M MC XM	1
R83	ERDS2TJ184	180k Ω , EN EK EZ EW EF EA EP EH XP XW XL XR X XS XT XD	1
R84	ERDS2TJ102	1k Ω	1
R85	ERDS2TJ272	2.7k Ω	1
R86	ER0S2CKF1001	1k Ω , ± 1%	1
R87	ER0S2CKF1002	10k Ω , ± 1%	1
R88	ER0S2CKF1001	1k Ω , ± 1%	1
R89	ERDS2TJ272	2.7k Ω	1
R90 ⚠	ERD2FCVG101	100 Ω ,1/4W,FUSE TYPE	1
R91-93	ERDS2TJ331	330 Ω	3
R94 ⚠	ERD2FCVG101	100 Ω ,1/4W,FUSE TYPE	1
R95 ⚠	ERD25FVJ4R7	4.7 Ω ,1/4W,FLAME-PROOF	1
R99,100	ERDS2TJ681	680 Ω	2
R102,104,106	ERDS2TJ471	470 Ω	3
R110	ERDS2TJ151	150 Ω	1
R111	ERDS2TJ330	33 Ω	1
R113	ERDS2TJ221	220 Ω	1
R114	ERDS2TJ331	330 Ω	1
R115,116 ⚠	ERQ14AJ2R0	2 Ω ,1/4W,FUSE TYPE	2
CAPACITORS			
C1 ⚠	ECKCVA1472MF	4700pF,LINE CAPACITOR	1
C2 ⚠	ECQU2A104MN	0.1 μ F,250V,ACROSS-THE LINE CAPACITOR	1
C4,6	ECA1VM472	4700 μ F,35V	2
C8,9	ECRF1H104ZF	0.1 μ F	2
C10	ECEA1CKA100	10 μ F,16V	1
C11	ECA1CM331	330 μ F,16V	1
C12	ECEA1HKN010	1 μ F,50V	1
C13	ECCR1H221J	220pF	1
C14	ECEA1HKN010	1 μ F,50V	1
C15	ECCR1H221J	220pF	1
C17	ECEA1HKN2R2	2.2 μ F,50V	1
C18	ECQV1H154JM	0.15 μ F	1
C19	ECQV1H224JM	0.22 μ F	1
C20	ECQB1H153JF	0.015 μ F	1
C21	ECQV1H104JM	0.1 μ F	1
C22	ECQG1H472KZ	0.0047 μ F	1
C23	ECQB1H333JF	0.033 μ F	1
C24	ECQG1H472KZ	0.0047 μ F	1
C25	ECQB1H223JF	0.022 μ F	1
C26	ECQG1H222KZ	0.0022 μ F	1
C27	ECQB1H103JF	0.01 μ F	1
C28	ECQB1H223JF	0.022 μ F	1
C30	ECEA1HKN2R2	2.2 μ F,50V	1
C31	ECQV1H154JM	0.15 μ F	1
C32	ECQV1H224JM	0.22 μ F	1
C33	ECQB1H153JF	0.015 μ F	1
C34	ECQV1H104JM	0.1 μ F	1
C35	ECQG1H472KZ	0.0047 μ F	1
C36	ECQB1H333JF	0.033 μ F	1
C37	ECQG1H472KZ	0.0047 μ F	1
C38	ECQB1H223JF	0.022 μ F	1
C39	ECQG1H222KZ	0.0022 μ F	1
C40	ECQB1H103JF	0.01 μ F	1
C41	ECQB1H223JF	0.022 μ F	1
C42,43	ECCR1H100D	10pF	2
C44	ECEA1HKN010	1 μ F,50V	1
C45	ECQB1H223JF	0.022 μ F	1
C46	ECQV1H104JM	0.1 μ F	1
C47	ECEA50Y2R2	2.2 μ F,50V	1

Ref.No.	Parts No.	Description	P/S
C48	ECEA50Y5R6	5.6 μ F,50V	1
C49	ECEA1HKN010	1 μ F,50V	1
C50	ECQB1H223JF	0.022 μ F	1
C51	ECQV1H104JM	0.1 μ F	1
C52	ECEA50Y2R2	2.2 μ F,50V	1
C53	ECEA50Y5R6	5.6 μ F,50V	1
C54,55	ECQG1H222KZ	0.0022 μ F	2
C56,57	ECRF1H104ZF	0.1 μ F	2
C58,59	ECQG1H222KZ	0.0022 μ F	2
C60	ECRF1H104ZF	0.1 μ F	1
C65	ECCR1H221J	220pF	1
C66	ECKF1E473ZV	0.047 μ F	1
C67	ECEA1HKA010	1 μ F,50V	1
C73	ECRF1H104ZF	0.1 μ F	1

HP HEADPHONES CIRCUIT

	Ref.No.	Parts No.	Description	P/S
		DIODE		
	D1	SEL4214RLC05	LED,POWER INDICATOR	1
		COIL		
○	L1	QLQGT3T131TA	130 μ H × 3	1
		JACKS		
	JK1	SJJG100A	HEADPHONE1	1
	JK2	SJJG100A	HEADPHONE2	1
		WIRE		
	W1	QEXGRA01005A	WIRE	1
		RESISTORS		
	R1-4 ⚠	ERG1SJ470	47 Ω ,1W,FLAME-PROOF	4
		CAPACITORS		
	C1,2	ECKF1E473ZV	0.047 μ F	2
	C3	ECRF1H104ZF	0.1 μ F	1

MKB1 MANUAL KEYBOARD 1 CIRCUIT

Ref.No.	Parts No.	Description	P/S
	INTEGRATED CIRCUITS		
IC1	ST93C46CB1	1KBITPROGRAMMEDEEPROM	1
IC2	HD74LS138P	3TO8 DECODER	1
	DIODES		
D1-88	MA165	DIODE	88
	CAPACITORS		
C1	ECRF1H104ZF	0.1 μ F	1
C2	ECEA0JKA470	47 μ F,6.3V	1
C3,4	ECRF1H104ZF	0.1 μ F	2

MKB2 MANUAL KEYBOARD 2 CIRCUIT

Ref.No.	Parts No.	Description	P/S
	INTEGRATED CIRCUITS		
IC3,4	HD74LS138P	3TO8 DECODER	2
	DIODES		
D89-176	MA165	DIODE	88
	CAPACITORS		
C5,6	ECRF1H104ZF	0.1 μ F	2

WIRING PARTS

	Ref.No.	Parts No.	Description	P/S
○	W1	QEXGSS04075A	CONNECTOR WITH WIRE	1
	W2	QEXGSS16055A	CONNECTOR WITH WIRE	1
○	W3	QEXGSS05035A	CONNECTOR WITH WIRE	1
○	W4	QEXGSS06040B	CONNECTOR WITH WIRE	1
	W5	QEXGSS10015A	CONNECTOR WITH WIRE	1
○	W6	QEXGSS07015A	CONNECTOR WITH WIRE	1
	W7	QEXGSS12015A	CONNECTOR WITH WIRE	1
○	W8	QEXGVH05080B	CONNECTOR WITH WIRE	1
	W9	QEXGSS16016B	CONNECTOR WITH WIRE	1
○	W10	QEXGVH06060E	CONNECTOR WITH WIRE	1
	W11	QEXGSS06080A	CONNECTOR WITH WIRE	1
	W12 ⚠	QEXGVH03115B	CONNECTOR WITH WIRE	1
	W13	QEUGKCH06BB	FLAT CABLE	1
	W14	QEUGK8H09BB	FLAT CABLE	1
	W15	QJLG013AA	PEDAL CORD	1

REPLACEMENT PARTS LIST.....Cabinet and Chassis Parts

Notes:

1. The marking(RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retension period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention.
   After the end of this period, the assembly will no longer be available.
2. ○ mark are new parts.
   Cabinet Colour
   - SX-PX226.....Black
   - SX-PX226M.....Walnat
   - SX-PX228B.....Black
3. Important safety notice
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components,use only manufacturer's specified parts.
4. For part No. with area mark, check the area when placing an order.
5. The raw material indication for synthetic resin.
   In order to facilitate classification of parts of synthetic resin manufacture and to promote the recycling of natural resources,a raw material symbol for such parts is indicated in the Ref. No./ Material column.

SX-PX226 CABINET & CHASSIS PARTS

Ref.No.		Parts No.	Description	P/S
			SWITCH	
	S1 ⚠	ESB8273V	POWER SWITCH	1
			SPEAKERS	
	SP1,2	EAS16PL471A3	16cm,6 Ω	2
	SP3,4	SASG12PL03-F	12cm,8 Ω	2
	SP5,6	EAS65PH31A3	6.5cm,8 Ω	2
			TRANSFORMER	
	T1 ⚠	QTPG1N017A	POWER TRANSFORMER, EN EK EZ EW EF EA EP EH X XL XR XS XT XD XP XW	1
○	T1 ⚠	QTPG1N022A	POWER TRANSFORMER, M MC XM	1
			POWER CORD & PLUG	
	PC1 ⚠	SJAG65	POWER CORD, EN EZ EW EF EA EP EH X XS XT XP XW	1
	PC1 ⚠	QJAG013AA	POWER CORD, M MC XM	1
	PC1 ⚠	QJAG014AA	POWER CORD, XL XR	1
	PC1 ⚠	VJA0733	POWER CORD, EK XD	1
	PC2 ⚠	SJP5213-1	ATTACHMENT PLUG, X XT XP	1
			CABINET PARTS	
○	1	QYKG222AB	SOUND LOOPHOLE BOARD	1
○	2	QGPG0125AA	CONTROL PANEL	1
	3	SBNG7050A	KNOB	1
	4	QMFG1107AA	FELT(RED)	1
	5	QGPG0106AA	LED PANEL	1
○	6	QMFG4197AA	CUSHION	1
○	7	QMFG4198AA	CUSHION	1
○	8 ABS	QGPG0123AB	PUSH BUTTON	1
	9 ABS	QGPG0124AB	PUSH BUTTON	1
	10	QMCG004AA	SPACER	9
	11	QMFG9012AA	SOUND ABSORBING MATERIAL	2
	12	QGKG0139AA	EXTERNAL JACK PANEL, EN M MC EK EZ EW EF EA EP EH XL XR XP XM XW	1
	12	QGKG0139BA	EXTERNAL JACK PANEL, X XS XT XD	1
○	13	QMRG7071CA	SPEAKER CABINET	2
○	13-1	QMRG5097AA	CUSHION	8
○	13-2	QMRG5091AA	CUSHION	4
○	13-3	QMRG5090AA	CUSHION	4
○	14 PS	QKSGG024BA	GUIDE	1
○	15 PS	QKSGG025BA	GUIDE	1
	16	QLZG017A	CORE, EN M MC EK EZ EW EF EA EP EH XL XR XM	4

SX-PX226M CABINET & CHASSIS PARTS

Ref.No.		Parts No.	Description	P/S
			SWITCH	
	S1 ⚠	ESB8273V	POWER SWITCH	1
			SPEAKERS	
	SP1,2	EAS16PL471A3	16cm,6 Ω	2
	SP3,4	SASG12PL03-F	12cm,8 Ω	2
	SP5,6	EAS65PH31A3	6.5cm,8 Ω	2
			TRANSFORMER	
	T1 ⚠	QTPG1N017A	POWER TRANSFORMER, EN EK EZ EW EA EP EH X XL XR	1
○	T1 ⚠	QTPG1N022A	POWER TRANSFORMER, M MC XM	1
			POWER CORD & PLUG	
	PC1 ⚠	SJAG65	POWER CORD, EN EZ EW EA EP EH X	1
	PC1 ⚠	QJAG013AA	POWER CORD, M MC XM	1
	PC1 ⚠	QJAG014AA	POWER CORD, XL XR	1
	PC1 ⚠	VJA0733	POWER CORD, EK	1
	PC2 ⚠	SJP5213-1	ATTACHMENT PLUG, X	1
			CABINET PARTS	
○	1	QYKG222AB	SOUND LOOPHOLE BOARD	1
○	2	QGPG0125AA	CONTROL PANEL	1
	3	SBNG7050A	KNOB	1
	4	QMFG1107AA	FELT(RED)	1
	5	QGPG0106AA	LED PANEL	1
○	6	QMFG4197AA	CUSHION	1
○	7	QMFG4198AA	CUSHION	1
○	8 ABS	QGPG0123AB	PUSH BUTTON	1
	9 ABS	QGPG0124AB	PUSH BUTTON	1
	10	QMCG004AA	SPACER	9
	11	QMFG9012AA	SOUND ABSORBING MATERIAL	2
	12	QGKG0139AB	EXTERNAL JACK PANEL, EN M MC EK EZ EW EA EP EH XL XR XM	1
	12	QGKG0139BB	EXTERNAL JACK PANEL, X	1
○	13	QMRG7071CA	SPEAKER CABINET	2
○	13-1	QMRG5097AA	CUSHION	8
○	13-2	QMRG5091AA	CUSHION	4
○	13-3	QMRG5090AA	CUSHION	4
○	14 PS	QKSGG024BA	GUIDE	1
○	15 PS	QKSGG025BA	GUIDE	1
	16	QLZG017A	CORE, EN M MC EK EZ EW EA EP EH XL XR XM	4

SX-PX226

Ref.No.		Parts No.	Description	P/S
17	⚠	SJS9231A	AC INLET COVER, EN EK EZ EW EF EA EP EH X XS XT XD XP XW	1
17	⚠	SJS9334A	AC INLET COVER, M MC XM XL XR	1
18		QMFG1083AB	FELT	1
19		SBLG7-2	STAY	1
○ 20		QGAG1034AA	MUSIC STAND	1
21		SBHG5003-2	HINGE	2
○ 22		QKQGA118AA	TOP COVER ASS'Y	1
22-1		QGKG0141AA	ORNAMENT	1
22-2		QMFG1237AA	FELT	3
22-3		SGBG160B	BADGE	1
○ 23		QKQGF026AA	KEYBOARD COVER ASS'Y	1
23-1		QMRG7056AA	HOLDER	2
23-2		QWBG002AA	HOLDER	1
23-3		QXQG007AA	AXLETREE	1
○ 23-4		QMFG1251AA	FELT	2
23-5		QMRG7031DC	PROTECTOR	1
23-6		QMRG7032DC	PROTECTOR	1
23-7		QGKG0095AD	ORNAMENT	1
○ 24		QMRG5096AA	CUSHION	1
25		QEXGRA01015D	WIRE	1
STAND				
○ 30		QKQGB443AA	LEFT PLANK ASS'Y	1
○ 30-1		QMFG1243AA	FELT	1
30-2	ABS	QKSGB006AA	LEG,LEFT	1
30-3	PP	SHRG2130B-K	FOOT	2
○ 31		QKQGB444AA	RIGHT PLANK ASS'Y	1
○ 31-1		QMFG1243AA	FELT	1
31-2	ABS	QKSGB007AA	LEG,RIGHT	1
31-3	PP	SHRG2130B-K	FOOT	2
32		SHRG9620A	CORD CLAMPER	3
33		QKQGD098AA	REAR BOARD	1
34		QKQGM081AA	PEDAL BOX ASS'Y	1
34-1		QGKG0113AA	ORNAMENT	3
35		SHRG1230A	CORD CLAMPER	1
36		QMBG009AA	SPRING	3
37		QMFG1133AA	FELT	3
38		QMFG1134AA	FELT	3
39		QMWG4002AA	PEDAL ARM	3
40		QMFG1135AA	FELT	3
41		QKAG0011AA	FOOT	1
MANUAL KEYBOARD				
70	PP ⚠	SHRG8390A	COVER,POWER SW	1
71	ABS	QGUG1040AA	BUTTON,POWER SWITCH	1
72	PS	QGPG0041BB	END COVER PANEL,LEFT	1
73	PS	QGPG0042AB	END COVER PANEL,RIGHT	1
74		QMFG1104AA	FELT	2
75	AS	QMWG1001AB	WHITEKEY(FIRST OCTAVE AKEY)	1
76	AS	QMWG1002AB	WHITE KEY(B KEY)	8
77	AS	QMWG1003AB	WHITE KEY(C KEY)	7
78	AS	QMWG1004AB	WHITE KEY(D KEY)	7
79	AS	QMWG1005AB	WHITE KEY(E KEY)	7
80	AS	QMWG1006AB	WHITE KEY(F KEY)	7
81	AS	QMWG1007AB	WHITE KEY(G KEY)	7
82	AS	QMWG1008AB	WHITE KEY(A KEY)	7
83	AS	QMWG1009AB	WHITE KEY(TOP OCTAVE C KEY)	1
84	AS	QMWG2001AC	BLACK KEY	36
85		SUSG534A	SPRING	88
86		QMWG8019CA	HAMMER(BLACK KEY)	36
87		QMWG8017DA	HAMMER(WHITE KEY)	52
88		SHGG9121A	RUBBER CAP(HAMMER)	88
89	PA	QMWG8024BA	KEY GUIDE	88
90	ABS	QMWG8022AA	FULCURUM(4PCS.ON ONE)	1

SX-PX226M

Ref.No.		Parts No.	Description	P/S
17	⚠	SJS9231A	AC INLET COVER, EN EK EZ EW EA EP EH X	1
17	⚠	SJS9334A	AC INLET COVER, M MC XM XL XR	1
18		QMFG1083AB	FELT	1
19		SBLG7-2	STAY	1
○ 20		QGAG1034AB	MUSIC STAND	1
21		SBHG5003-2	HINGE	2
○ 22		QKQGA118AB	TOP COVER ASS'Y	1
22-1		QGKG0141AB	ORNAMENT	1
22-2		QMFG1237AA	FELT	3
22-3		SGBG160B	BADGE	1
○ 23		QKQGF026AB	KEYBOARD COVER ASS'Y	1
23-1		QMRG7056AA	HOLDER	2
23-2		QWBG002AA	HOLDER	1
23-3		QXQG007AA	AXLETREE	1
○ 23-4		QMFG1251AA	FELT	2
23-5		QMRG7031DC	PROTECTOR	1
23-6		QMRG7032DC	PROTECTOR	1
23-7		QGKG0095AC	ORNAMENT	1
○ 24		QMRG5096AA	CUSHION	1
25		QEXGRA01015D	WIRE	1
STAND				
○ 30		QKQGB443AB	LEFT PLANK ASS'Y	1
○ 30-1		QMFG1243AA	FELT	1
30-2	ABS	QKSGB006AB	LEG,LEFT	1
30-3	PP	SHRG2130B-K	FOOT	2
○ 31		QKQGB444AB	RIGHT PLANK ASS'Y	1
○ 31-1		QMFG1243AA	FELT	1
31-2	ABS	QKSGB007AB	LEG,RIGHT	1
31-3	PP	SHRG2130B-K	FOOT	2
32		SHRG9620A	CORD CLAMPER	3
33		QKQGD098AB	REAR BOARD	1
34		QKQGM081AB	PEDAL BOX ASS'Y	1
34-1		QGKG0113AA	ORNAMENT	3
35		SHRG1230A	CORD CLAMPER	1
36		QMBG009AA	SPRING	3
37		QMFG1133AA	FELT	3
38		QMFG1134AA	FELT	3
39		QMWG4002AA	PEDAL ARM	3
40		QMFG1135AA	FELT	3
41		QKAG0011AA	FOOT	1
MANUAL KEYBOARD				
70	PP ⚠	SHRG8390A	COVER,POWER SW	1
71	ABS	QGUG1040AA	BUTTON,POWER SWITCH	1
72	PS	QGPG0041BB	END COVER PANEL,LEFT	1
73	PS	QGPG0042AB	END COVER PANEL,RIGHT	1
74		QMFG1104AA	FELT	2
75	AS	QMWG1001AB	WHITEKEY(FIRST OCTAVE AKEY)	1
76	AS	QMWG1002AB	WHITE KEY(B KEY)	8
77	AS	QMWG1003AB	WHITE KEY(C KEY)	7
78	AS	QMWG1004AB	WHITE KEY(D KEY)	7
79	AS	QMWG1005AB	WHITE KEY(E KEY)	7
80	AS	QMWG1006AB	WHITE KEY(F KEY)	7
81	AS	QMWG1007AB	WHITE KEY(G KEY)	7
82	AS	QMWG1008AB	WHITE KEY(A KEY)	7
83	AS	QMWG1009AB	WHITE KEY(TOP OCTAVE C KEY)	1
84	AS	QMWG2001AC	BLACK KEY	36
85		SUSG534A	SPRING	88
86		QMWG8019CA	HAMMER(BLACK KEY)	36
87		QMWG8017DA	HAMMER(WHITE KEY)	52
88		SHGG9121A	RUBBER CAP(HAMMER)	88
89	PA	QMWG8024BA	KEY GUIDE	88
90	ABS	QMWG8022AA	FULCURUM(4PCS.ON ONE)	1

SX-PX226

	Ref.No.	Parts No.	Description	P/S
	91 ABS	QMWG8021AA	FULCURUM(12PCS.ON ONE)	7
	92	SHRGA9080A	SPONGE	2
	93	QMFG1073AA	FELT	2
	94	QMFG1230AA	FELT	2
	95	QMFG1101AA	FELT	2
	96	QMFG1061AB	FELT	2
	97	QMFG1231AC	FELT	2
	98	QMFG1086AB	FELT	2
	99	QMWG6006AA	RUBBER SWITCH(8PCS.ON ONE)	11
	100	SHRG9751A	P.C.B.HOLDER	24
	101	QMWG3003CA	CHASSIS	1
	102	SUWG3157A	ANGLE	2
			SCREWS & WASHERS	
	N1	XNS12FZ	NUT	2
	N2	XTT4+10A	SCREW	8
	N3	XTB4+10B	SCREW	2
	N4	XTT4+12AFZ	SCREW	1
	N5	XTT4+16A	SCREW	2
	N6	XYN4+F16FZ	SCREW WITH WASHER	3
	N7	XTB35+14A	SCREW	1
	N8	XTB3+10AFZ	SCREW	3
	N9	XTS3+10AFZ	SCREW	4
	N10	XTW3+10Q	SCREW	45
	N11	XTW3+20TFZ	SCREW	7
	N12	XTW3+10JFZ	SCREW	10
	N13	XTB35+12A	SCREW	10
	N14	XYN3+C8FZ	SCREW WITH WASHER	1
	N15	SNEG2660A	SCREW	2
	N16	XTB3+10A	SCREW, EN M MC EK EZ EW EF EA EP FH XL XR XM	3
	N17	XYN4+F16	SCREW WITH WASHER	4
	N18	XYN4+F25	SCREW WITH WASHER	8
	N19	QHDG021AA	SCREW WITH WASHER	10
	N20	XTW3+8J	SCREW	8
	N21	XTT4+14A	SCREW	16
	N22	QHWG007AA	NUT	2
	N23	XTT4+10AFZ	SCREW	2
	N24	XTT4+30AFZ	SCREW	4
○	N25	XTS3+12AFZ	SCREW	6
	N26	XTB4+16A	SCREW	8
	N27	XTT4+25AFZ	SCREW	6
	N28	QHDG032AB	SCREW WITH WASHER	4
	N29	QHDG016AB	SCREW WITH WASHER	6
	N30	XTT5+20AFZ	SCREW	4
	N31	XTN4+16F	SCREW WITH WASHER	1
	N32	XTB35+16A	SCREW	12
	N33	XTN4+45A	SCREW	2
	N35	XTT4+10A	SCREW	6
	N40	XTV3+10C	SCREW	2
	N41	XTB4+12A	SCREW	4
	N42	XTW3+10T	SCREW	14

SX-PX226M

	Ref.No.	Parts No.	Description	P/S
	91 ABS	QMWG8021AA	FULCURUM(12PCS.ON ONE)	7
	92	SHRGA9080A	SPONGE	2
	93	QMFG1073AA	FELT	2
	94	QMFG1230AA	FELT	2
	95	QMFG1101AA	FELT	2
	96	QMFG1061AB	FELT	2
	97	QMFG1231AC	FELT	2
	98	QMFG1086AB	FELT	2
	99	QMWG6006AA	RUBBER SWITCH(8PCS.ON ONE)	11
	100	SHRG9751A	P.C.B.HOLDER	24
	101	QMWG3003CA	CHASSIS	1
	102	SUWG3157A	ANGLE	2
			SCREWS & WASHERS	
	N1	XNS12FZ	NUT	2
	N2	XTT4+10A	SCREW	8
	N3	XTB4+10B	SCREW	2
	N4	XTT4+12AFZ	SCREW	1
	N5	XTT4+16A	SCREW	2
	N6	XYN4+F16FZ	SCREW WITH WASHER	3
	N7	XTB35+14A	SCREW	1
	N8	XTB3+10AFZ	SCREW	3
	N9	XTS3+10AFZ	SCREW	4
	N10	XTW3+10Q	SCREW	45
	N11	XTW3+20TFZ	SCREW	7
	N12	XTW3+10JFZ	SCREW	10
	N13	XTB35+12A	SCREW	10
	N14	XYN3+C8FZ	SCREW WITH WASHER	1
	N15	SNEG2660A	SCREW	2
	N16	XTB3+10A	SCREW, EN M MC EK EZ EW EA EP FH XL XR XM	3
	N17	XYN4+F16	SCREW WITH WASHER	4
	N18	XYN4+F25	SCREW WITH WASHER	8
	N19	QHDG021AA	SCREW WITH WASHER	10
	N20	XTW3+8J	SCREW	8
	N21	XTT4+14A	SCREW	16
	N22	QHWG007AA	NUT	2
	N23	XTT4+10AFZ	SCREW	2
	N24	XTT4+30AFZ	SCREW	4
○	N25	XTS3+12AFZ	SCREW	6
	N26	XTB4+16A	SCREW	8
	N27	XTT4+25AFZ	SCREW	6
	N28	QHDG032AB	SCREW WITH WASHER	4
	N29	QHDG016AB	SCREW WITH WASHER	6
	N30	XTT5+20AFZ	SCREW	4
	N31	XTN4+16F	SCREW WITH WASHER	1
	N32	XTB35+16A	SCREW	12
	N33	XTN4+45A	SCREW	2
	N35	XTT4+10A	SCREW	6
	N40	XTV3+10C	SCREW	2
	N41	XTB4+12A	SCREW	4
	N42	XTW3+10T	SCREW	14

SX-PX228B CABINET & CHASSIS PARTS

	Ref.No.		Parts No.	Description	P/S
			SWITCH		
	S1	⚠	ESB8273V	POWER SWITCH	1
			SPEAKERS		
	SP1,2		EAS16PL471A3	16cm,6 Ω	2
	SP3,4		SASG12PL03-F	12cm,8 Ω	2
	SP5,6		EAS65PH31A3	6.5cm,8 Ω	2
			TRANSFORMER		
	T1	⚠	QTPG1N017A	POWER TRANSFORMER, EN EK EZ EW EF EA EP EH X XL XR XS XT XD XP XW	1
○	T1	⚠	QTPG1N022A	POWER TRANSFORMER, M MC XM	1
			POWER CORD & PLUG		
	PC1	⚠	SJAG65	POWER CORD, EN EZ EW EF EA EP EH X XS XT XP XW	1
	PC1	⚠	QJAG013AA	POWER CORD, M MC XM	1
	PC1	⚠	QJAG014AA	POWER CORD, XL XR	1
	PC1	⚠	VJA0733	POWER CORD, EK XD	1
	PC2	⚠	SJP5213-1	ATTACHMENT PLUG, X XT XP	1
			CABINET PARTS		
○	1		QYKG222AB	SOUND LOOPHOLE BOARD	1
○	2		QGPG0125AB	CONTROL PANEL	1
	3		SBNG7050A	KNOB	1
	4		QMFG1107AA	FELT(RED)	1
	5		QGPG0106AA	LED PANEL	1
○	6		QMFG4197AA	CUSHION	1
○	7		QMFG4198AA	CUSHION	1
○	8	ABS	QGPG0123AB	PUSH BUTTON	1
	9	ABS	QGPG0124AB	PUSH BUTTON	1
	10		QMCG004AA	SPACER	9
	11		QMFG9012AA	SOUND ABSORBING MATERIAL	2
	12		QGKG0139AA	EXTERNAL JACK PANEL, EN M MC EK EZ EW EF EA EP EH XL XR XP XM XW	1
	12		QGKG0139BA	EXTERNAL JACK PANEL, X XS XT XD	1
○	13		QMRG7071CA	SPEAKER CABINET	2
○	13-1		QMRG5097AA	CUSHION	8
○	13-2		QMRG5091AA	CUSHION	4
○	13-3		QMRG5090AA	CUSHION	4
○	14	PS	QKSGG024BA	GUIDE	1
○	15	PS	QKSGG025BA	GUIDE	1
	16		QLZG017A	CORE, EN M MC EK EZ EW EF EA EP EH XL XR XM	4
	17	⚠	SJS9231A	AC INLET COVER, EN EK EZ EW EF EA EP EH X XS XT XD XP XW	1
	17	⚠	SJS9334A	AC INLET COVER, M MC XM XL XR	1
	18		QMFG1083AB	FELT	1
	19		SBLG7-2	STAY	1
○	20		QGAG1036AA	MUSIC STAND	1
	21		SBHG5003-2	HINGE	2
○	23		QKQGF029AA	KEYBOARD COVER ASS'Y	1
	23-1		QMRG7056AA	HOLDER	2
	23-2		QWBG002AA	HOLDER	1
	23-3		QXQG007AA	AXLETREE	1
	23-5		QMRG7031DC	PROTECTOR	1
	23-6		QMRG7032DC	PROTECTOR	1
○	23-7		QGKG0145AA	ORNAMENT	1
○	24		QMRG5096AA	CUSHION	1

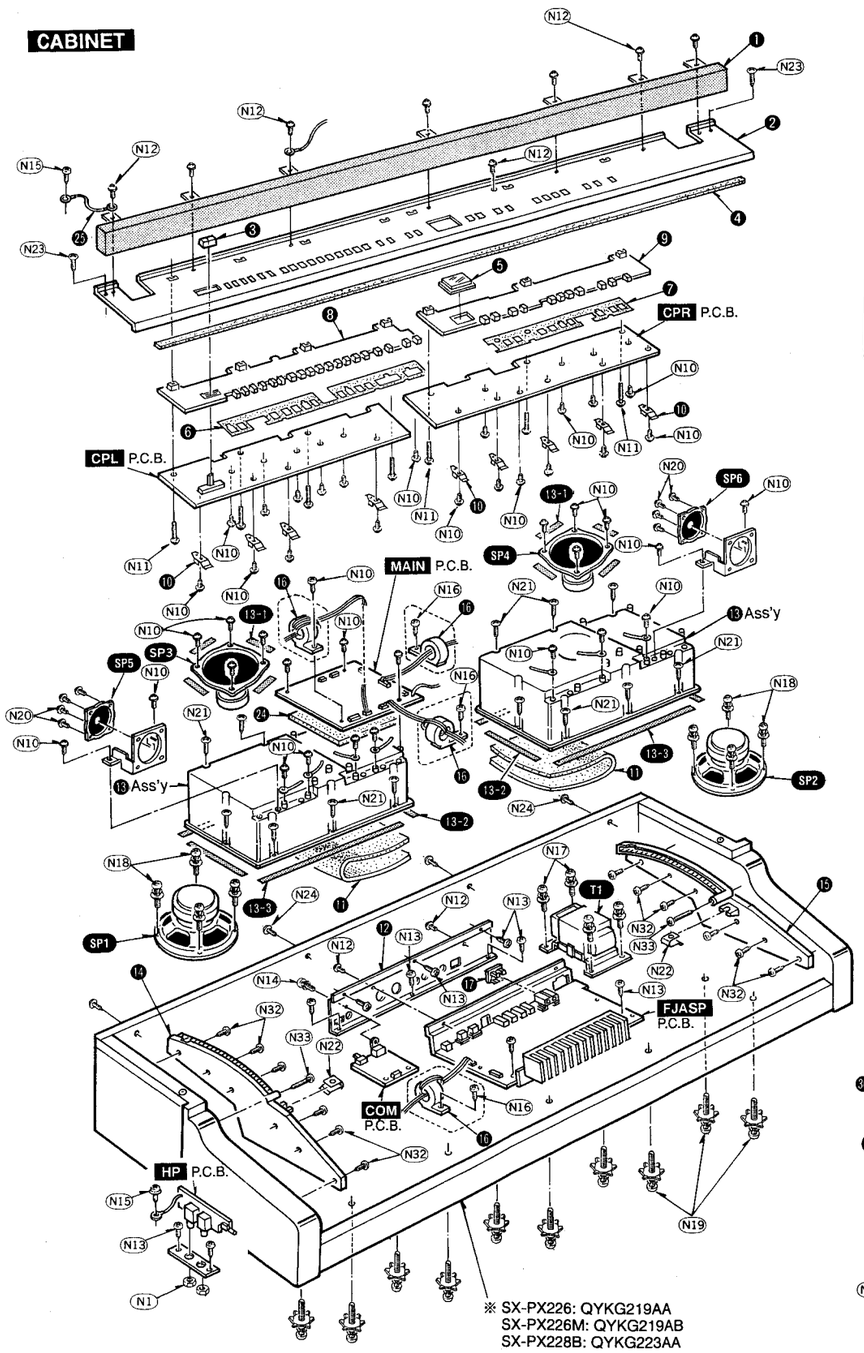
SX-PX228B

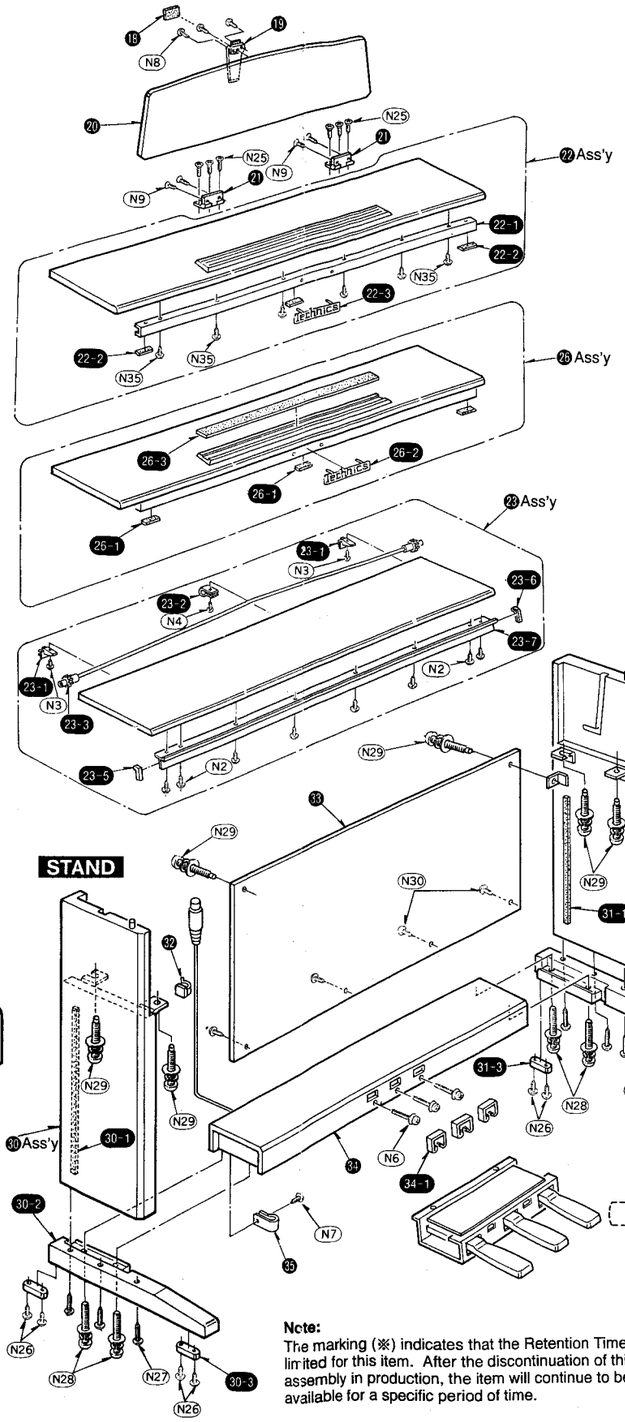
	Ref.No.		Parts No.	Description	P/S
	25		QEXGRA01015D	WIRE	1
○	26		QKQGA124AA	TOP COVER ASS'Y	1
	26-1		QMFG1237AA	FELT	3
	26-2		SGBG160B	BADGE	1
○	26-3		QMFG1238AA	FELT	1
			STAND		
○	30		QKQGB459AA	LEFT PLANK ASS'Y	1
○	30-1		QMGG050AA	SPACER	1
	30-2	ABS	QKSGB006AA	LEG,LEFT	1
	30-3	PP	SHRG2130B-K	FOOT	2
○	31		QKQGB460AA	RIGHT PLANK ASS'Y	1
○	31-1		QMGG050AA	SPACER	1
	31-2	ABS	QKSGB007AA	LEG,RIGHT	1
	31-3	PP	SHRG2130B-K	FOOT	2
	32		SHRG9620A	CORD CLAMPER	3
○	33		QKUG3002AA	REAR BOARD	1
○	34		QKQGM085AA	PEDAL BOX ASS'Y	1
	34-1		QGKG0113AA	ORNAMENT	3
	35		SHRG1230A	CORD CLAMPER	1
	36		QMBG009AA	SPRING	3
	37		QMFG1133AA	FELT	3
	38		QMFG1134AA	FELT	3
	39		QMWG4002AA	PEDAL ARM	3
	40		QMFG1135AA	FELT	3
	41		QKAG0011AA	FOOT	1
			MANUAL KEYBOARD		
	63		QMWG9016AA	ROLLER	88
	64		QMWG8015AA	ROLLER HOLDER(12PCS.ONONE)	7
	65		QMWG8023AA	ROLLER HOLDER(4PSC.ONONE)	1
	66		QMWG9018AA	FELT	1
	67		QMWG9017AA	FELT	2
	68		QMWG3007AA	CHASSIS	1
	69		QMWG3004AA	CHASSIS	2
	70	PP ⚠	SHRG8390A	COVER,POWER SW	1
	71	ABS	QGUG1040AA	BUTTON,POWER SWITCH	1
	72	PS	QGPG0041BB	END COVER PANEL,LEFT	1
	73	PS	QGPG0042AB	END COVER PANEL,RIGHT	1
	74		QMFG1104AA	FELT	2
	75	AS	QMWG1001AB	WHITE KEY(FIRST OCTAVE A KEY)	1
	76	AS	QMWG1002AB	WHITE KEY(B KEY)	8
	77	AS	QMWG1003AB	WHITE KEY(C KEY)	7
	78	AS	QMWG1004AB	WHITE KEY(D KEY)	7
	79	AS	QMWG1005AB	WHITE KEY(E KEY)	7
	80	AS	QMWG1006AB	WHITE KEY(F KEY)	7
	81	AS	QMWG1007AB	WHITE KEY(G KEY)	7
	82	AS	QMWG1008AB	WHITE KEY(A KEY)	7
	83	AS	QMWG1009AB	WHITE KEY(TOP OCTAVE C KEY)	1
	84	AS	QMWG2001AC	BLACK KEY	36
	85		SUSG534A	SPRING	88
	86		QMWG8019CA	HAMMER(BLACK KEY)	36
	87		QMWG8017DA	HAMMER(WHITE KEY)	52
	88		SHGG9121A	RUBBER CAP(HAMMER)	88
	89	PA	QMWG8024BA	KEY GUIDE	88
	90	ABS	QMWG8022AA	FULCURUM(4PCS.ON ONE)	1
	91	ABS	QMWG8021AA	FULCURUM(12PCS.ON ONE)	7
	92		SHRGA9080A	SPONGE	2
	93		QMFG1073AA	FELT	2
	94		QMFG1230AA	FELT	2
	95		QMFG1101AA	FELT	2
	96		QMFG1061AB	FELT	2
	97		QMFG1231AC	FELT	2
	98		QMFG1086AB	FELT	2
	99		QMWG6006AA	RUBBER SWITCH(8PCS.ONONE)	11
	100		SHRG9751A	P.C.B.HOLDER	24
	101		QMWG3003CA	CHASSIS	1

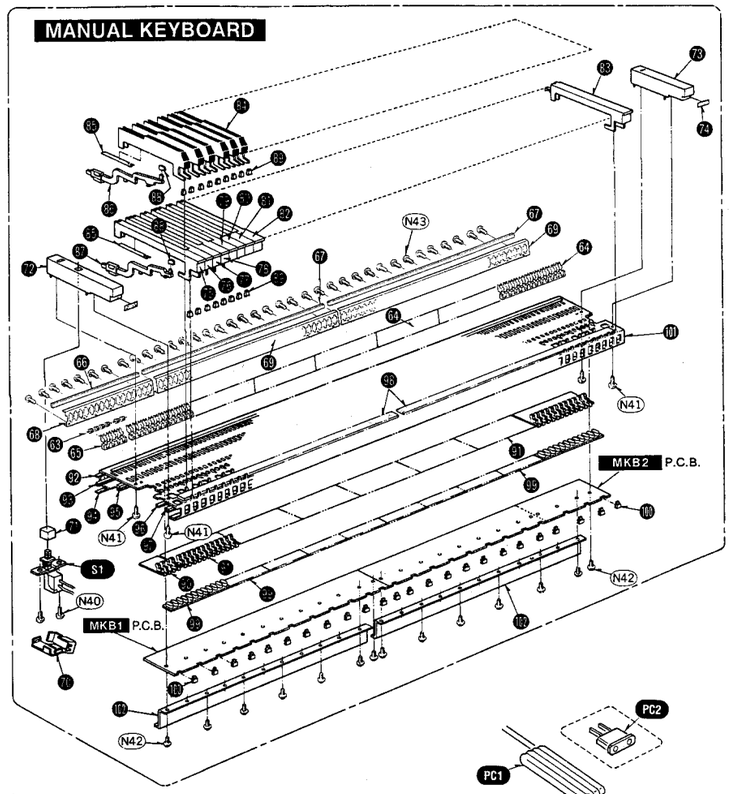
SX-PX228B

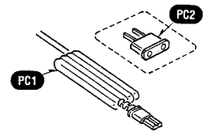
	Ref.No.	Parts No.	Description	P/S
	102	SUWG3157A	ANGLE	2
		SCREWS & WASHERS		
	N1	XNS12FZ	NUT	2
○	N2	XTT4+8A	SCREW	8
	N3	XTB4+10B	SCREW	2
	N4	XTT4+10AFZ	SCREW	1
	N5	XTT4+16A	SCREW	2
	N6	XYN4+F16FZ	SCREW WITH WASHER	3
	N7	XTB35+14A	SCREW	1
	N8	XTB3+10AFZ	SCREW	3
	N9	XTS3+10AFZ	SCREW	4
	N10	XTW3+10Q	SCREW	45
	N11	XTW3+20TFZ	SCREW	7
	N12	XTW3+10JFZ	SCREW	10
	N13	XTB35+12A	SCREW	10
	N14	XYN3+C8FZ	SCREW WITH WASHER	1
	N15	SNEG2660A	SCREW	2
	N16	XTB3+10A	SCREW, EN M MC EK EZ EW EF EA EP EH XL XR XM	3
	N17	XYN4+F16	SCREW WITH WASHER	4
	N18	XYN4+F25	SCREW WITH WASHER	8
	N19	QHDG021AA	SCREW WITH WASHER	10
	N20	XTW3+8J	SCREW	8
	N21	XTT4+14A	SCREW	16
	N22	QHWG007AA	NUT	2
	N23	XTT4+10AFZ	SCREW	2
	N24	XTT4+30AFZ	SCREW	4
○	N25	XTS3+12AFZ	SCREW	6
	N26	XTB4+16A	SCREW	8
	N27	XTT4+25AFZ	SCREW	6
	N28	QHDG032AB	SCREW WITH WASHER	4
	N29	QHDG016AB	SCREW WITH WASHER	6
	N30	XTT5+20AFZ	SCREW	4
	N31	XTN4+16F	SCREW WITH WASHER	1
	N32	XTB35+16A	SCREW	12
	N33	XTN4+45A	SCREW	2
	N40	XTV3+10C	SCREW	2
	N41	XTB4+12A	SCREW	4
	N42	XTW3+10T	SCREW	14
	N43	XTV3+14J	SCREW	37

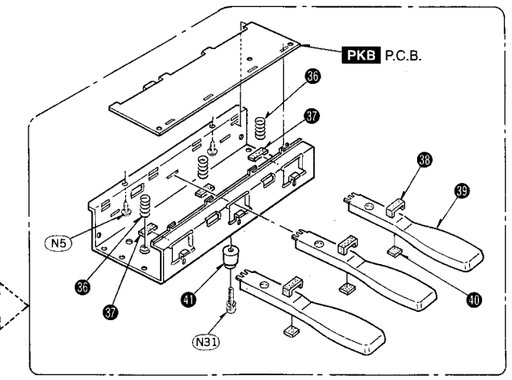
CABINET PARTS LOCATION





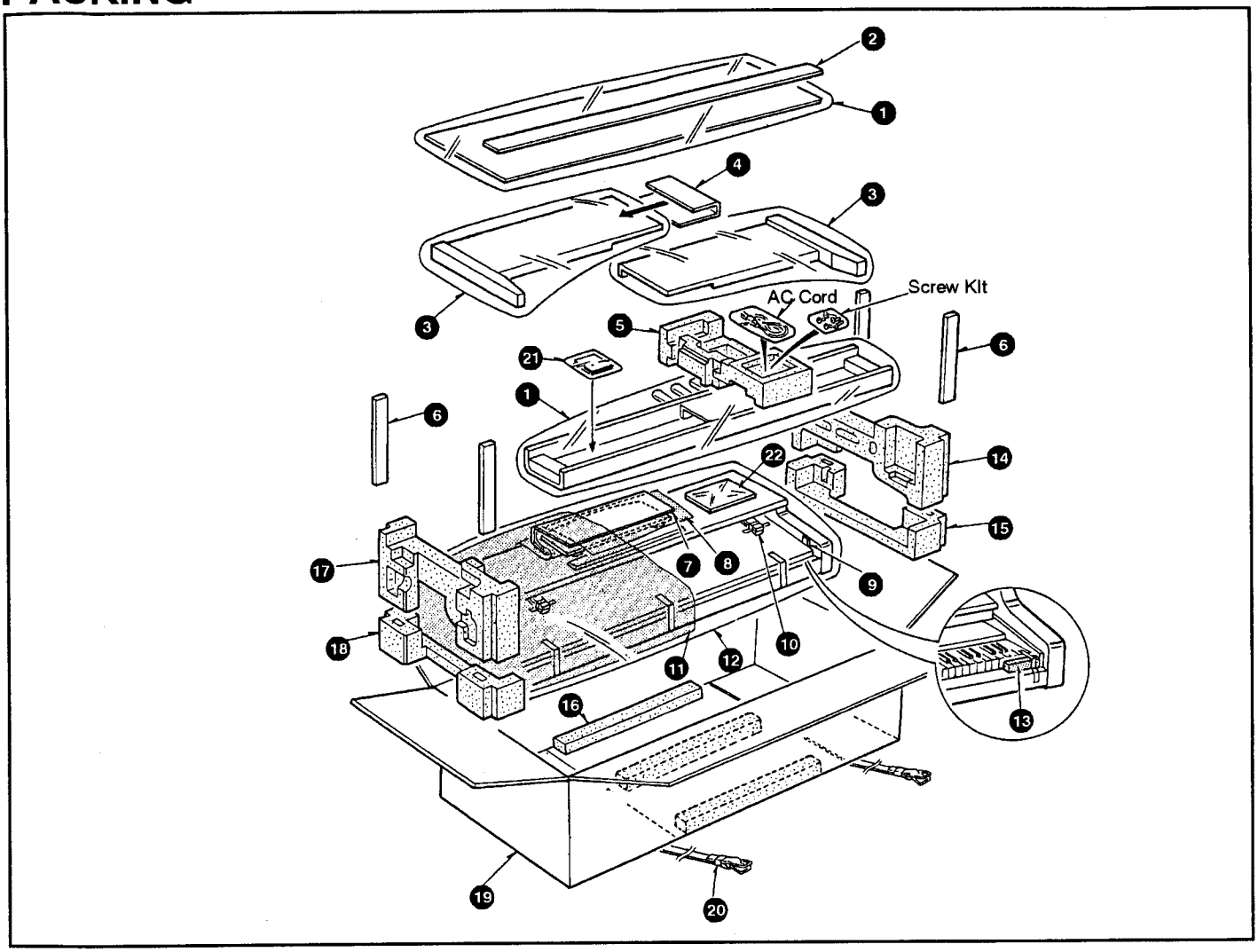






Note:
The marking (※) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time.

PACKING



■PACKING PARTS

	Ref.No.		Parts No.	Description	P/S
			PACKING PARTS		
	1	PE	QPFG026AA	POLYETHYLENE BAG	2
	2		QPNG0358AA	TOP CARDBOARD	1
	3	PE	QPFG006AA	POLYETHYLENE BAG	2
○	4		QPGG0380AA	PAD	1
○	5	PS	QPNG0641AA	PAD	1
○	6		QPQG052AB	PROP	4
○	7		QPGG0381AA	PAD	1
	8	PE	SPHG1490A	PROTECTION SHEET,SX-PX226/PX226M	1
	8		QPHG088AA	PROTECTIONN SHEET,SX-PX228B	1
	9		SHSG2090A	FELT	2
	10		SPNG5161A	SPACER	2
	11	PE	QPHG028AA	PROTECTION SHEET,SX-PX226/PX226M	1
	11		QPHG090AA	PROTECTION COVER,SX-PX228B	1
	12	PE	QPFG013AA	POLYETHYLENE BAG	1
○	13	PE	QPNG0642AA	PAD,SX-PX226/PX226M	2
○	13	PE	QPNG0642AA	PAD,SX-PX228B	3
○	14	PS	QPNG0638AA	PAD	1
○	15	PS	QPNG0640AA	PAD	1
	16		QPNG0632AA	PAD	3
○	17	PS	QPNG0637AA	PAD	1
○	18	PS	QPNG0639AA	PAD	1
○	19		QPGG0378AA	PACKINGCASE,PAPER,SX-PX226	1
○	19		QPGG0378AB	PACKINGCASE,PAPER,SX-PX226M	1
○	19		QPGG0378AC	PACKINGCASE,PAPER,SX-PX228B	1

	Ref.No.	Parts No.	Description	P/S
	20	SPSG40A	BAND	2
	21	QFBG034AA	CLEANING CLOTH,SX-PX228B	1
		OPERATING INSTRUCTION MANUAL		
○	22	QQFGPX226AA	OPERATING INSTRUCTION MANUAL, EN EP X XT XD XP XM	1
○	22	QQFGPX226CA	OPERATING INSTRUCTION MANUAL, M	1
○	22	QQFGPX226DA	OPERATING INSTRUCTION MANUAL, MC	1
○	22-1	QQTG0448A	ENGLISH	1
○	22-2	QQTG0449A	FRANCAIS,NERDERLANDS,ITALIANO	1
○	22	QQFGPX226EA	OPERATING INSTRUCTION MANUAL, EK XL XR XS XW	1
○	22	QQFGPX226FA	OPERATING INSTRUCTION MANUAL, EZ	1
○	22-1	QQTG0449A	FRANCAIS,NERDERLANDS,ITALIANO	1
○	22-2	QQTG0450A	DEUTSCH	1
○	22	QQFGPX226GA	OPERATING INSTRUCTION MANUAL, EW EH	1
○	28	QQFGPX226HA	OPERATING INSTRUCTION MANUAL, EF	1
○	29	QQFGPX226JA	OPERATING INSTRUCTION MANUAL, EA	1